Prompting Agent for Accessing Game and Relevant Information through a General-Purpose Computer

The present invention generally relates to a data processing system and method. More particularly, the present invention relates to a system and method for simplifying game access in a general-purpose computer system.

Video games are typically run on those dedicated game machines produced by Nintendo or Sony, or run on a general-purpose computer such as a personal computer.

Dedicated game machines are specifically for playing games and not for word processing and electronic data sheet, etc. Since there are no competition with non-game applications, games on a dedicated game machine are accessed directly. Typically, when a cassette tape or disc containing game software is inserted into a machine, the machine will run the game.

A general-purpose computer is intended for running more kinds of applications, such as word processor, electronic data sheet, drawing program, e-mail program, web browser, ..., and game. Since there are many applications on a general-purpose computer, it is more problematic to search and access a game desired to play on a general-purpose computer than on a dedicated game machine, and moreover, the user interface on a general-purpose computer is not much friendly.

Fig. 1 is a block diagram showing a conventional general-purpose computer system. The conventional system comprises a general-purpose computer (100), a display device (102), a game input device (104), and other input device (106).

The general-purpose computer (100) can be a personal computer produced from various kinds of manufacturers. Alternatively, the general-purpose computer (100) can be a work station, a server, or other general-purpose computing device. The general-purpose computer (100) typically comprises a bus system (108), a central processing unit (CPU) (110), a display interface (112), an input device interface (14), a memory interface (116), a storage device (118), and a memory (120).

The display interface (112) is connected to the display device (102) and transmits therein information to be displayed. The display interface (112) may comprise a graphic card manufactured by various kinds of manufacturers. The display device (102) may comprise a monitor manufactured by various kinds of companies. Alternatively, the display device (102) may comprise a panel display device or a TV display.

The input device interface (114) may be connected to the game input device (104) and other input device (106), and is configured to receive input therefrom. The input device interface (114) may comprise a serial interface like a game port, a RS-232 interface, a USB (Universal Serial Bus) interface, or a plurality of other interfaces. The game input device (104) may comprise a joy stick, a steering wheel, a game mat, a gun for game, or any other game input device. Such game input device (104) may be produced by Logitech Inc. of Fremout in California. Other input device (106) typically comprises a keyboard, and a mouse or other pointing device. The other input device (106)

may be connected to the same interface as that the game input device (104) are connected to (as shown in Fig. 1) or connected to one or more different interfaces (114).

The memory interface (116) is connected to the storage device (118) and allows access to the content therein. The storage device (118) is typically one or more hard disk drivers. The storage device (118) typically stores various kinds of software, including an operating system (OS) (122) and application software. The OS (122) is a kind of software particularly for establishing an interface between an application and hardware and a file system of a general-purpose computer (100). In a special interest to the present application, application software typically comprises game controller software (124) and game software (126). The game controller software is typically packaged with the game input device (104) for example produced by Logitech Inc.. The game software (126) may comprise games produced by various kinds of software producers.

The memory (120) typically comprises a kind of random access memory (RAM). The memory (120) may comprise an available RAM produced by various kinds of manufacturers. The memory (120) typically load an operating system and an application selected from the storage device (118). In a special interest to the present application, the memory (120) may load the game controller software (124) and game software (126) from the storage device (118).

Fig. 2 schematically shows a flow chart of a conventional method for access a game on a conventional general-purpose computer system. The steps in Fig. 2 are typically by a user of a general-purpose computer (100).

The method starts when the game input device (104) is connected (step 202) to the input device (114). The user, before intended to play one of a plurality of games (126) stored in the general-purpose computer (100), typically connects (step 202) the game input device (104) to the general-purpose computer (100) via the interface (114). The conventional general-purpose computer system graphically illustrated in Fig. 1 shows the game inputting device (104) connected to general-purpose computer (100)

Once the game input device (104) is connected (step 202) to the general-purpose computer (100), the user typically runs the game controller software (224) via the operation system (112). For example, by using a Windows 95 OS produced by Microsoft, the user for example may click "Start" button and turn to "Program", and then carefully check a list and/or file to search and click the icon or name of the game controller software (224). As instructed by the user, the OS (112) enables the game controller software to be loaded to the memory (120) from the memory (118), and the CPU (110) subsequently executes the instruction of the game controller software.

Once the game controller (124) is running, the user can determine (step 206) if the game input device (104) is assigned to a special identifier (typically, IDI, as shown in Fig. 2), such that input from the game input device (104) is identified by the game software. If the game input device (104) is not assigned to a special identifier, the user must typically assign a special identifier to a game input device (104).

Once a game input device (104) is assigned to a special identifier, the user typically searches and runs (step 210) the game (126) he or she intends to play via the operating system (122). For example, by using the Windows 95 OS produced from Microsoft Corp. of Redmond, Washington, the user for example can click "Start" button, and then turn to "Program", and then carefully checks a list and/or file to search and click the icon or name of a game (126) desired to play. For example, the game (126) the user desires to play may comprise a special game (126B) stored in the memory (118). As instructed by the user, the OS (122) enables the special game (126B) to be loaded to a memory (120) from the memory (118), and the CPU (110) subsequently executes the instruction of the special game (126B).

Once the game (126) the user desires to play has been run (step 210), the user may play (step S212) the game (126). After playing the game (126), the user may cause the game software (126) to be closed (step 214) or, in other words, stop the execution of the game. At that point, the user re-searches and re-runs (step 210) another game (126) the user desires to play via the OS (122).

A disadvantage for this conventional method is that it is troublesome and low-efficient for searching and running (step 210) the game (126) the user desired to play with the OS (122). Such troublesome and low-efficient step has to be repeated each time the user needs searching and running (step 210) another game (126). Besides, running (step 204) the game controller (124) and determining (step 204) the identifier assigned to the game input device (104) are two problematic additional steps unfavorable for the conventional method. Further, customizing the settings can not be provided through the conventional method.

The present invention overcomes the above problem and disadvantage by enabling the user of the game input device to easily run a game and access auxiliary information via a general-purpose compute. According to the present invention, running a game on a general-purpose computer is simplified via a method. The method comprises: detecting user input from a game input device; initiating a prompting agent when detecting a user input; displaying a list of installed games; providing navigation of the list; providing selection of a game on the list; and initiating the selected game. Further, according to the present invention, accessing the auxiliary information through the general-purpose computer is simplified by displaying a proper link together with the list of the installed games. Such auxiliary information may comprise e-business issues. Likewise, according to the present invention, settings can be customized for a special game input device, a special game, and/or a special user.

Besides, the present invention relates to an initiator agent, comprising: a detecting module configured to detect user input from a game input device; and an initiating module configured to initiate a prompting agent when detecting the user input. Still further, the present invention relates to a method for determining and updating a list of games installed on a general-purpose computer by comparing a set of known games and a record containing information relating to installed programs.

Fig. 1 schematically shows a block diagram of a conventional general-purpose computer system;

Fig. 2 schematically shows a flow chart of a conventional method for accessing a game on a conventional general-purpose computer system;

Fig. 3A schematically shows a block diagram of a computer system according to the present invention;

Fig. 3B schematically shows a block diagram of an operating system (122) comprising game data (304) and an initiator agent (306) according to the present invention;

Fig. 4 schematically shows a flow chart of a method for initiating a game or accessing auxiliary information via a general-purpose computer system of Fig. 3A according to the present invention;

Fig. 5 schematically shows a flow chart of a method of initiating (step 404) a prompting agent (302) according to the present invention;

Fig. 6 schematically shows a block diagram illustrating relationship between elements involved in the method of Fig. 5 according to the present invention;

Fig. 7 schematically shows a flow chart of a method of updating game data (304) according to the present invention;

Fig. 8 schematically shows a block diagram of a display device (102) of a window (802) provided by a prompting agent (302) according to the present invention;

Fig. 9 schematically shows a window (802) provided by a prompting agent (302) according to a preferred embodiment of the present invention;

Fig. 10 schematically shows a window (1000) for customizing settings provided by software according to a preferred embodiment of the present invention;

Fig. 3A schematically shows a block diagram of a computer system according to the present invention. The general-purpose computer system in Fig. 3A is similar to the conventional general-purpose computer system in Fig. 1. However, the general-purpose computer system in Fig. 3A comprises a prompting agent software (302) stored in a memory (118). Besides, as shown in Fig. 3B, an operating system (122) comprises game data (304) and an initiator agent (306). The prompting agent (302), game data (304), and initiator agent (306) will be further described hereinafter. They do not exist in a conventional general-purpose computer system.

Fig. 4 schematically shows a flow chart of a method for initiating a game or accessing auxiliary information on a general-purpose computer system of Fig. 3A according to the present invention. The steps shown in rectangular blocks in Fig. 4 are typically executed by a user of the general-purpose computer (100), whereas the steps as shown in round blocks in Fig. 4 are executed by the prompting agent (302). The steps executed by the prompting agent (302) are automatically executed from the angle of the user.

Similar to the method of Fig. 2, when the game input device (104) is connected to the input device interface (114), the method of Fig. 4 starts. Before the user intends to play one of a plurality of games (step 202) stored in the general-purpose computer (100), the user typically connects (step 202) the game input device (104) to the general-purpose computer (100) via the interface (114). In Fig. 3A, the shown general-purpose computer system shows the game input device (104) connected to the general-purpose computer (100).

However, after the first step, the method of Fig. 4 is different from the method of Fig. 2. In the method of Fig. 4, the next step is generated by a user simply pressing (step 402) a button on the game input device (104). The button may be any button on the game input device (1040, or the button may be a dedicated button or a set of dedicated buttons on a game input device. Alternatively, instead of pressing (step 402) a button, the user can move a simulation control, for example a joy stick or a steering wheel.

Pressing (step 402) of a button typically indicates that the user intends to play a game (126). The initiator agent (306) detects the pressing (step 402) of the button and initiates (step 404) the prompting agent software (302). Initiation of the prompting agent (302) is enabled by loading it into the memory (120) and executing its instruction by the CPU (110). The automation process of detecting pressing (step 402) of the button and initiating (step 404) the prompting agent (302) will be described in more detail hereinafter with reference to Fig. 5.

Once the prompting agent (302) is initiated (step 404), the prompting agent (302) assigns a specific identifier (typically, IDI, as shown in Fig. 4) to the game input device (104), such that the input from the game input device (104) will be properly identified by the game (126). This step (step 406) is automatically executed by the prompting agent (302); the user is relieved from the necessity of running (step 204) the game controller (124) and assigning (step 208) a special identifier to the game controller (124). In this way, the above-mentioned two problems and defects of the conventional methods are thus overcome.

Once the game input device (104) is assigned to a special identifier, the prompting agent (302) displays on the display device (102) the list of names and/or icons of the games (126) in the memory (118). The list is obtained from the game data (304). The list may also be classified before being displayed (step 408), for example, alphabetically. For the sake of users, most recently popular games (126) can also be highlighted or pre-selected. Similar to other steps executed by the prompting agent (302), this step (step 408) is automatically executed, without any input from the user. The automatic process of obtaining and/or updating game data (304) will be further described in detail hereinafter with reference to Fig. 7.

Together with the list of games (126), the prompting agent (302) also provides navigation and selection characteristics to enable the user to search and activate (step 410) a specific game (for example game B) he or she desires to play or the link of the auxiliary information he or she desires to access by using the game input device (104). The navigation and selection characteristics can enable the user to navigate and select in the links via the game input device (104). For example, if

the game input device (104) is a joy stick, natural up-down or left-right movement of the joy stick will be used to navigate in the link. Via this step (step 410), the user is relieved from the troublesome step of necessarily positioning (step 210) a specific game (126B) in mass files via the operating system (122). Thus, other problems and defects of conventional methods are overcome.

Further, the prompting agent (302) provides customization of settings. Such customizable setting may comprise customization of settings for a specific game input device and/or a specific game and/or a specific user, for example assigning functions to a button. The data for such customized settings can be retained in the game data (304).

Still further, this step (step 410) provides convenient access to not only the game but also the auxiliary information. If the general-purpose computer (100) is connected to the international Internet, the auxiliary information can be accessed through for example a website. The auxiliary information may comprise: discussion group on a game activity; game review; news in game industry; information about a new game or game input device; information about updating driver program software; chances for purchasing or renting a game or a game input device; and chances for purchasing game-associated magazines, etc. The auxiliary information may further comprise advertisements providing transaction information and opportunities beyond the video game industry, particularly in a market whose customer pool is substantially consistent with the players of the video games.

Once the link is activated, the prompting agent (302) is closed (step 412), and then the user plays the game or accesses information and issues (step 414). When playing or accessing is in the process (during the period of step 414), monitoring the input from the game input device (104) is suspended by the initiator agent (306), and upon pressing (step 402) the button, the initiator (306) initiates (step 404) the prompting agent (302).

Once the user completes playing game or accessing information and issues, the user terminates (step 416) playing game or accessing. After the termination, the initiator agent (306) resumes monitoring on the input from the game input device (104). If the user shifts to other running application (the game is not terminated, but paused), the initiator agent also re-initiate monitoring on the input. Thus, upon occurrence of next pressing (step 402) the button, the initiator agent (306) restart (step 404) the prompting agent (302).

Fig. 5 schematically shows a flow chart of a method of initiating (step 404) a prompting agent (302) according to the present invention. The method of Fig. 5 starts after the user presses the button (step 402).

In the first step, due to pressing (step 402) of the button, the generated signal is received by a driver software (602) from the game input device (104). Next, the driver program (602) sends (step 504) a corresponding communication to the initiator agent (306). Responsive to the communication, the initiator agent (306) causes the prompting agent (302) to be initiated (step 506). The initiation (step 506) occurs by loading the prompting agent (302) in the memory (120) and then running by the CPU (10).

Fig. 6 schematically shows a block diagram illustrating relationship between elements involved in the method of Fig. 5 according to the present invention. In Fig. 6, the shown game input device (104) sends a signal to the driver software (602). The driver program (602) is displayed as a part of a Hardware Abstraction Layer (HAL) (604). Such a HAL (604) is typically present in the OS (122). For example, the Windows 98 and Windows NT produced by Microsoft comprise a DirectX (interface for programming hardware) as an integral part thereof. DirectX provides HAL (604) of various kinds of common software drivers like the driver (602) in Fig. 6. The driver (602) is shown to be associated with the initiator agent (306) which is also shown as a part of the OS (122). The initiator agent 306 comprises a coating dedicated to the dedicated game input device (104) in use. The initiator agent (306) is also shown to be associated with game data (304) that is also shown as a part of the OS (122).

Fig. 7 schematically shows a flow chart of a method of updating game data (304) according to the present invention. This method typically starts when the general-purpose computer (100) is booted (step 702). In addition, the method may start after a new game software is installed (step 703). The booting process of a computer is for loading and initializing of most conventional parts and particularly relates to the loading and initializing of OS (122).

However, according to the present invention, the OS (122) comprises the initiator agent (306). Thus, in the present invention, the initiator agent is executed during the booting process so as to update game data (304). In such updating process, the operation of the initiator agent (306) is as follows. Firstly, the profiles of known games to the initiator agent (306) is compared (step 704) with the program coverage zone in the records saved by the OS (122). Such records are saved by for example Windows OS produced by Microsoft. Secondly, a list of known games installed on the general-purpose computer (100) is formed (step 706) by means of matches from the comparison. Finally, at the third step, the list of known games in the memory (118) is used for updating (step 708) the game data (304).

The profiles of known games are stored in the memory (118) in a file that may be identical or different from the game data (304). Characteristics may be provided to allow update of profiles via the international Internet or via a floppy or other communication means. In this way, the update via the international Internet is executed as requested by the user, or automatically executed timely-based, without being requested by the user. A profile may comprise extensible information of a game, comprising instructions in use, size of software, version of software, publisher, and various kinds of other information. The various kinds of other information may for example comprise the address of the website where copies of the games can be purchased or rented.

It should be noted that it is essential to compare the known games to the initiator agent (306) and the programs in the records, because a general-purpose computer not only comprises games, but also many other executable files. Currently, the OS (122) typically does not provide a uniform way to distinguish game applications from non-game applications. For example, a person can not determine whether it is a game or not from the name and position of the application. In the future, such method of distinguishing a game application from a non-game application might be provided.

Fig. 8 schematically shows a block diagram of a display device (102) of a window (802) provided by a prompting agent (302). The content in the window (802) is schematically shown and does not intend to indicate a particular layout. The content in the window comprises a list of installed games (802A) and access (802B) to auxiliary information. The access (802A) to auxiliary information may be in the form of list, a pull-down window, or other rendering manner. Similarly, the list of installed games (802A) is not necessarily a literal list, and may comprise navigation characteristics wherein the list may be very long. Alternatively, the installed games (802A) and auxiliary information (802B) may be rendered in different windows, respectively, or the installed windows (802A) and auxiliary information (802B) may also be rendered in the same list but distinguishable from one another in display.

Since games A and B are displayed as having been installed in Fig. 7, the prompting agent (302) displays games A and B in the installed games. For each step (step 410) in Fig. 4, if a user clicks the name and/or icon of game B, the agent will initiate the game B.

Games C and D are not displayed as having been installed in Fig. 7. Thus, they are still displayed as having not been installed (802B) in the games. The user may select such a game which is not installed and obtain the additional information regarding this game. Such information may be stored in the profile of the not installed game, or obtained from the web site of the game publisher. Moreover, the user may be inquired of whether he or she plans to purchase or rent the not installed game. If the user indicates he or she desires to purchase or rent the not installed game, the agent (302) may contact the website of the game publisher, transfer the payment information, and download the game copy for installing.

Fig. 9 schematically shows a window (802) provided by a prompting agent (302) according to a preferred embodiment of the present invention. The window (802) comprises icons (902) of the installed games and rolling buttons (904L, 904R) for viewing and selecting other installed games (902) other than those currently displayed in the window (802).

Fig. 10 schematically shows a window (1000) for customizing settings provided by software according to a preferred embodiment of the present invention. The user can use a first characteristic (1002) to select a particular game input device (104) and use a second characteristic (1004) to select a particular game (126). For a particular device (104) and game (126), the window (1000) displays various kinds of features customizable by the user.

Though the detailed and precise embodiments and applications of the present invention have been schematically illustrated and described, it should be appreciated that the present invention is not limited to the precise structure and components as disclosed here, and to the person of normal skill in the art, it is apparent that various modifications, alterations and changes can be made to the method and assembly, operation and details of the device as disclosed in the present invention, without exceeding the scope and spirit of the present invention as determined in the appended claims.

The Claims:

1. A method for simplifying accessing game-related information through a general-purpose computer, comprising:
detecting a user input from a game input device connected to the general-purpose computer;
initiating a prompting agent for simplifying accessing game-related information via a general-purpose computer;
displaying a link to a game-related information on a display device connected to a general-purpose computer by using a prompting agent;
providing, by using a prompting agent, navigation to a user via the game input device to position and select a particular link to a particular game-related information; and
activating, by using a prompting agent, the particular link to provide a particular game-related information to the user.

2. A method according to claim 1, wherein the game-related information comprises games installed on the general-purpose computer, and wherein the link comprises presentation of the games installed on the general-purpose computer.

3. A method according to claim 2, wherein a particular game-related information comprises a particular game, and wherein activating the particular link comprises initiating a particular game for the user to play.

4. A method according to claim 1, wherein the game-related information comprises auxiliary information.

5. A method according to claim 4, wherein the auxiliary information comprises information regarding chances for purchasing or renting particular games not installed on the general-purpose computer.

6. A method according to claim 5, wherein the auxiliary information comprises information regarding chances for purchasing products in a market whose customer pool substantially overlaps with players of video games.

7. A method according to claim 5, wherein the auxiliary information is accessed via a web site.

8. A method according to claim 1, further comprising:
assigning a game input device to a particular identifier such that the input from the game input device will be identified.

9. A method according to claim 3, further comprising:

closing the prompting agent after initiating a particular game; and
re-initiating the prompting agent if a new user input is detected after the particular game is closed.

10. A method according to claim 1, where detecting the user input comprises:

receiving a signal corresponding to the user input by using a drive program in a Hard Abstraction Layer; and

transmitting a corresponding signal from the drive program to an initiator agent.

11. A method according to claim 10, wherein upon the corresponding signal is received, the initiator agent causes the prompting agent to be initiated.

12. A method according to claim 2, further comprising updating the installed games when the general-purpose computer is booted.

13. A method according to claim 2, further comprising updating installed games after a new game is installed on the general-purpose computer.

14. A method according to claim 2, further comprising updating installed games through a process, the process comprising:
comparing profiles of known games with content of a registration containing data in a program installed on the general-purpose computer so as to determine match;
determining the currently known games installed on the general-purpose computer by using the match; and
updating the installed games to be currently installed known games.

15. A method according to claim 12, wherein the process further comprises:
determining the known games currently not installed on the general-purpose computer by a non-match.

16. A method for simplifying accessing game-related information through a general-purpose computer, comprising:
comparing profiles of known games with content of a registration containing data in a program installed on the general-purpose computer so as to determine match;
determining the currently known games installed on the general-purpose computer by using the match;
updating the installed games to be currently installed known games;
detecting a user input from a game input device connected to the general-purpose computer;
initiating a prompting agent for simplifying a game-related information through the general-purpose computer;
assigning a particular identifier to the game input device by using the prompting agent such that the input from the game input device will be identified;

displaying a link to game-related information, including to installed games, on a display device connected to the general-purpose computer by using the prompting agent;
providing, by using the prompting agent, navigation to a user via the game input device so as to position and select a particular link to a particular game-related information; and
activating, by using the prompting agent, the particular link to provide a user a particular game-related information.

17. A device for simplifying accessing game-related information through a general-purpose computer, comprising:
a detecting module adapted to detect a user input from a game input device connected to the general-purpose computer;
a prompting agent comprising a display module configured to display a link to the game-related information on a display device connected to the general-purpose computer, a navigation module configured to provide navigation to the user via the game input device so as to position and select a particular link to a particular game-related information, and an activating module configured to activate the particular link to provide a particular game-related information to the user; and
an initiating module adapted to initiate the prompting agent when detecting the user input by a detecting component.

18. An initiator agent for simplifying the access to program or information through a general-purpose computer system, comprising:
a detecting module configured for detecting a user input from a game input device connected to a general-purpose computer; and
an initiating module configured for initiating a prompting agent when detecting the user input from the game input device.

19. An agent according to claim 18, wherein when the game is being run on the general-purpose computer, the agent terminates detecting the user input from the game input device.

20. An agent according to claim 18, further comprising:
a comparison module configured for comparing profiles of known games with a registered content on the general-purpose computer thereby determining match and non-match therefrom; and
an updating module configured for updating game data in a file saved in a memory of the general-purpose computer by using the match.

21. An agent according to claim 20, wherein the comparing and the updating occur when the general-purpose computer is booted.

22. An agent according to claim 20, wherein the comparing and the updating occur after a new game is installed on the general-purpose computer.

23. A computer system adapted to simplify accessing game-related information, the general-purpose computer comprising:

a bus system adapted to allow communication between various kinds of hardware on the general-purpose computer;
a central processing unit (CPU) hardware connected to the bus system and adapted to execute an instruction from a software component of the general-purpose computer;
a display interface hardware connected to the bus system and adapted to transmit information for being displayed to a display device;
an input device interface hardware connected to the bus system and adapted to receive input from a game input device;
a memory interface hardware connected to the bus and adapted to send and receive data from a memory device;
a memory hardware connected to the bus system and adapted to comprise software executed by the CPU and data used by the program;
an operating system software configured to establish an interface between hardware and software components of a general-purpose computer;
a prompting agent software configured to display a link to a game-related information on the display device;
an initiator agent software configured to detect user input from the game input device and initiate an agent software when detecting the user input.

24. A method for updating data about installed games on a computer system from a set of known games, comprising:
comparing profiles of known games with a registered content comprising data of a program installed on the general-purpose computer so as to determine match;
determining games currently installed on the general-purpose computer by using the match; and
updating data about installed games to reflect the currently installed games.

25. A method according to claim 3, wherein the prompting agent provides customization to a particular game input device.

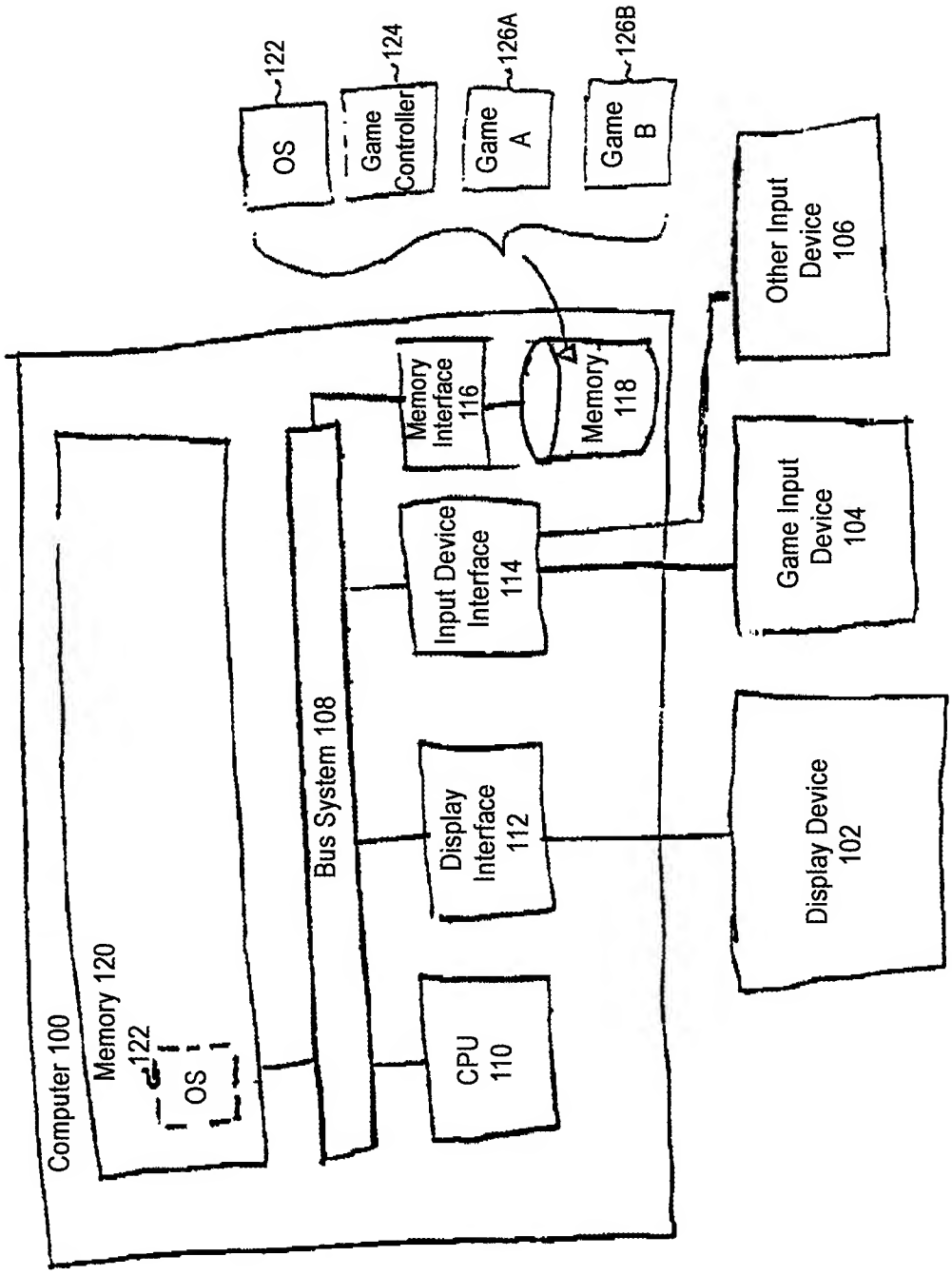
26. A method according to claim 3, wherein the prompting agent provides customization to a particular game.

27. A method according to claim 3, wherein the prompting agent provides customization to a particular user.

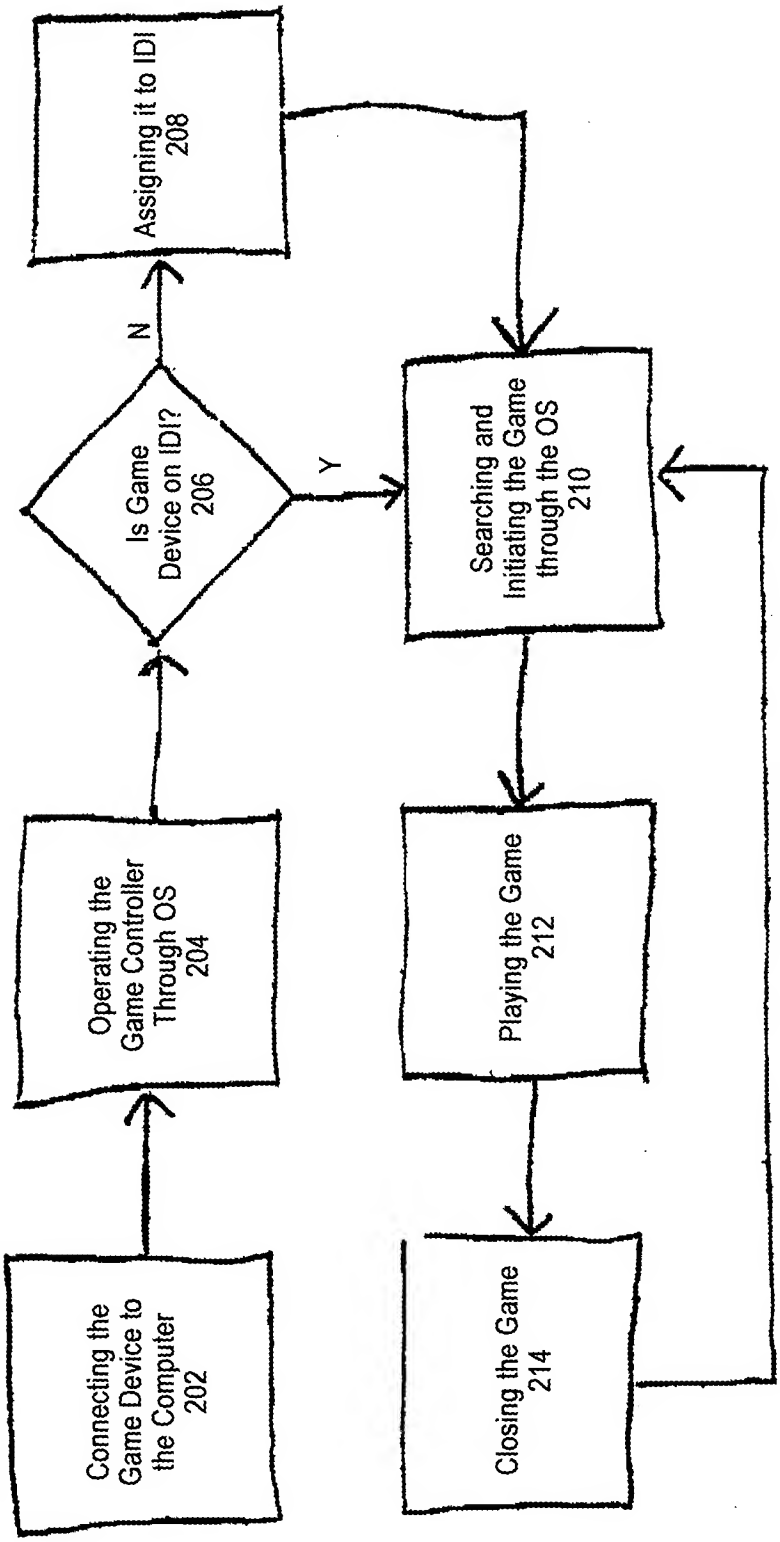
Abstract:

Accessing a game on a general-purpose computer is simplified by a method, which comprises: detecting a user input from a game input device; initiating a prompting agent when detecting the user input; displaying a list of installed games; providing navigation to the list; providing selection of a game in the list; and initiating the selected game. Moreover, accessing auxiliary information through a general-purpose computer can be simplified by displaying a proper link together with the list of installed games. Such auxiliary information can comprise e-business issues. Furthermore, settings for a particular game input device, for a particular game and/or for a particular user can be customized.

Accompanying Drawings



Prior Art
Fig. 1



Prior Art

Fig. 2

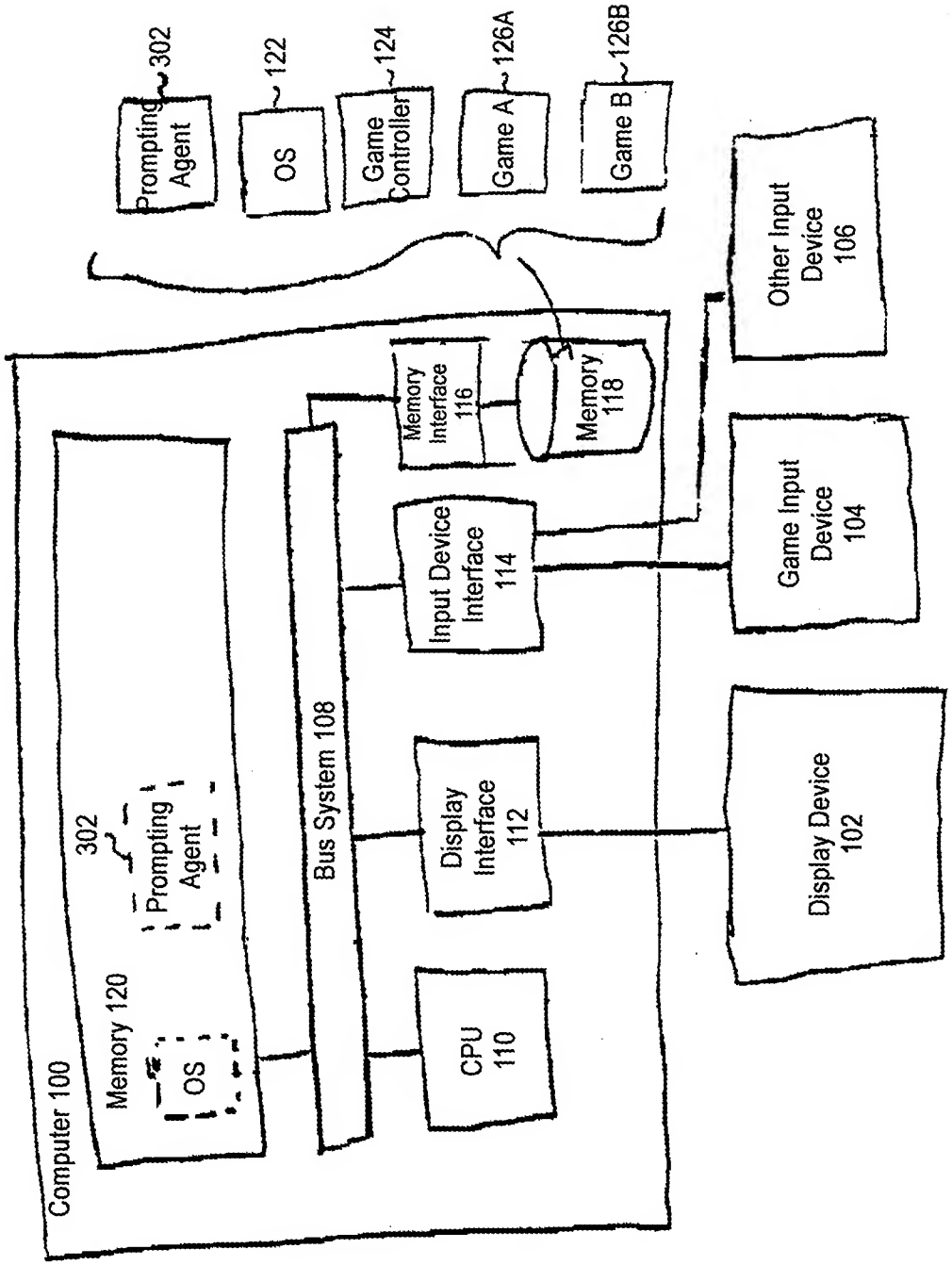

Computer 100
Memory 120
OS
302
Prompting Agent
Bus System 108
CPU 110
Display Interface 112
Input Device Interface 114
Memory Interface 116
Memory 118
Prompting Agent 302
OS 122
Game Controller 124
Game A 126A
Game B 126B
Display Device 102
Game Input Device 104
Other Input Device 106

Fig. 3A

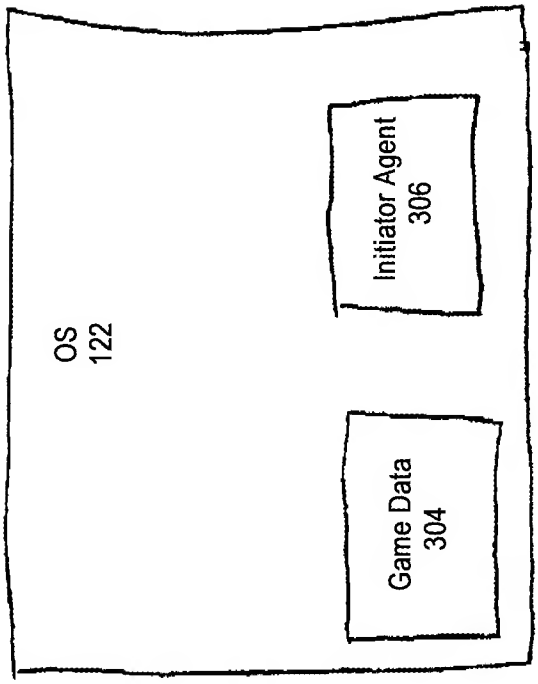
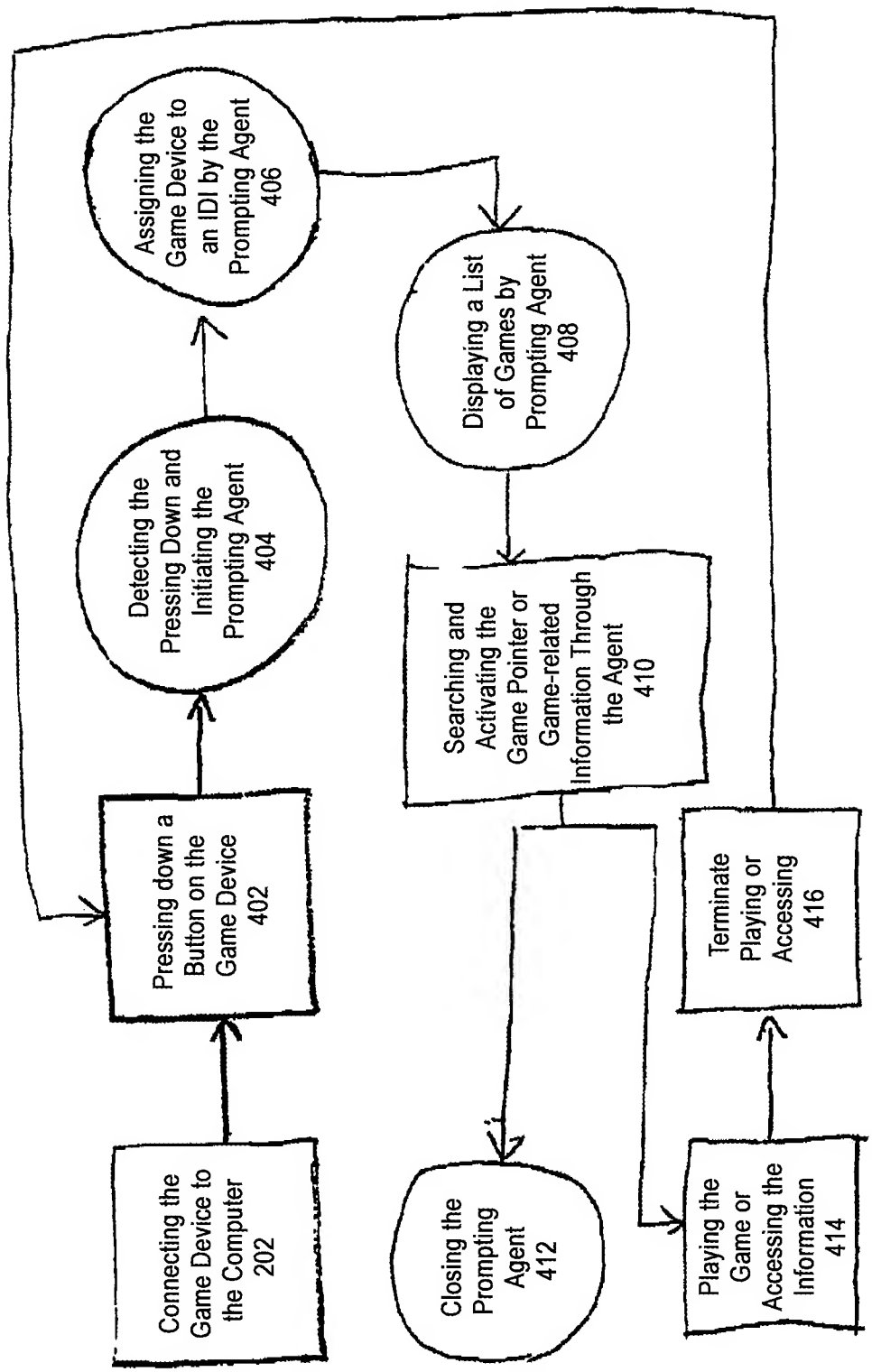


Fig. 3B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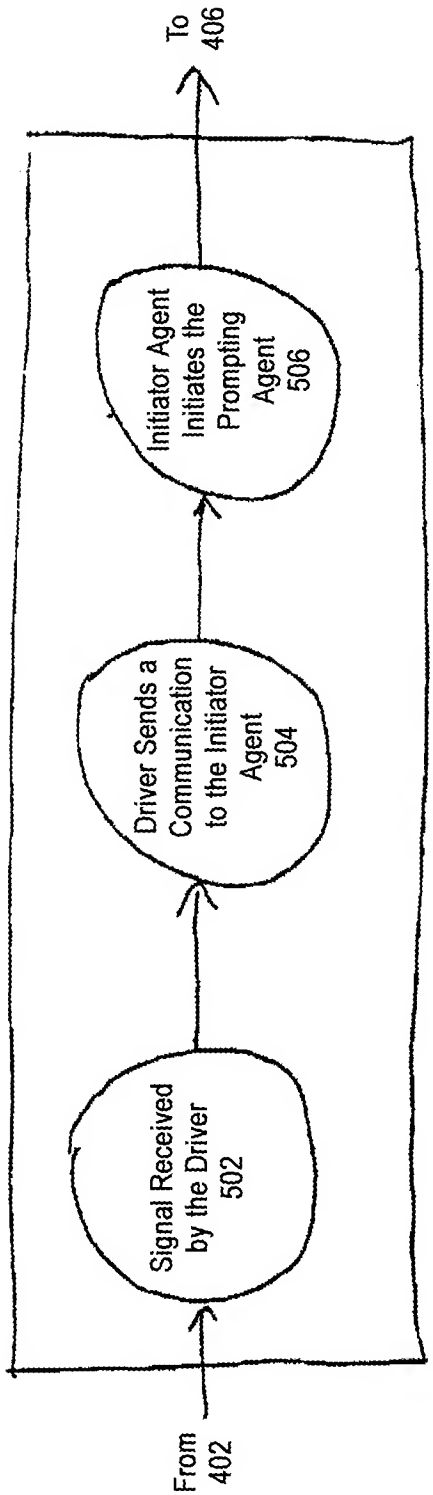
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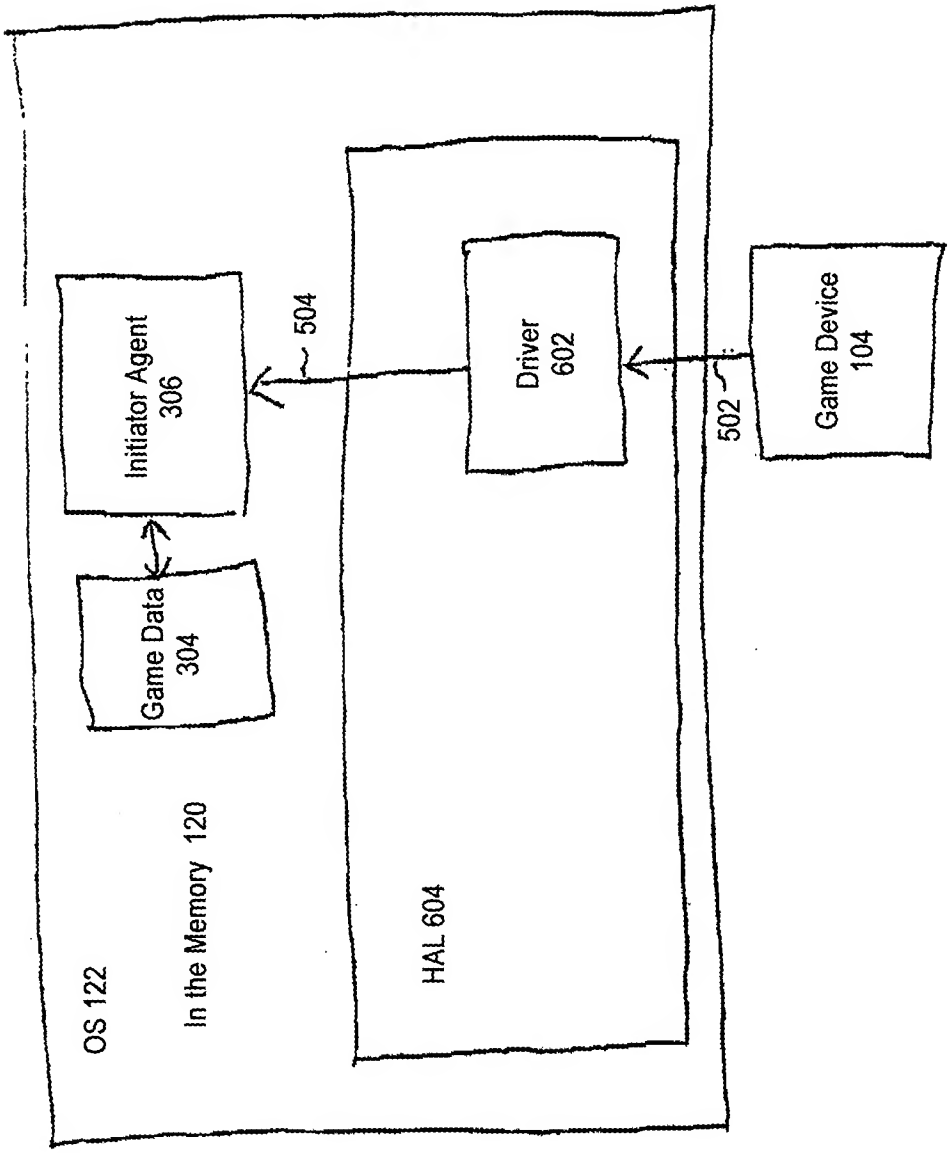
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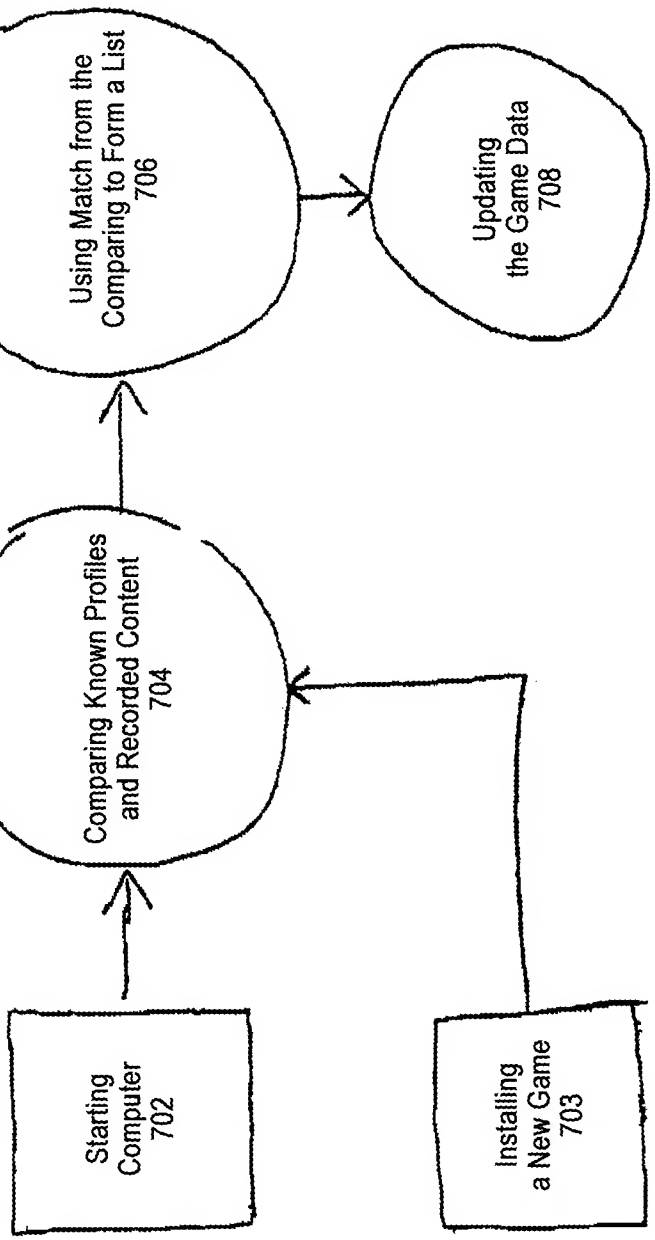
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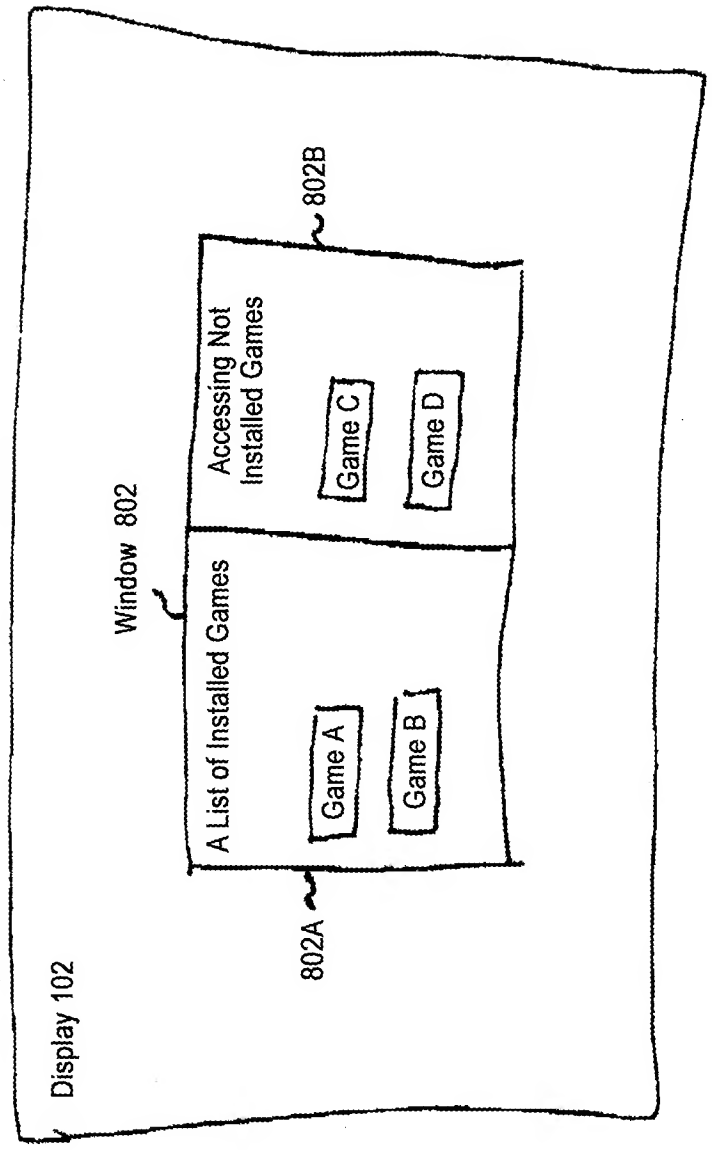
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Fig. 8

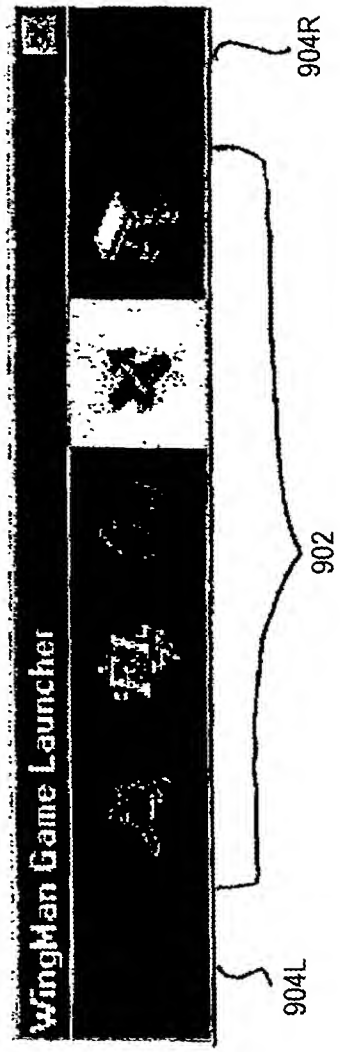

Fig. 9

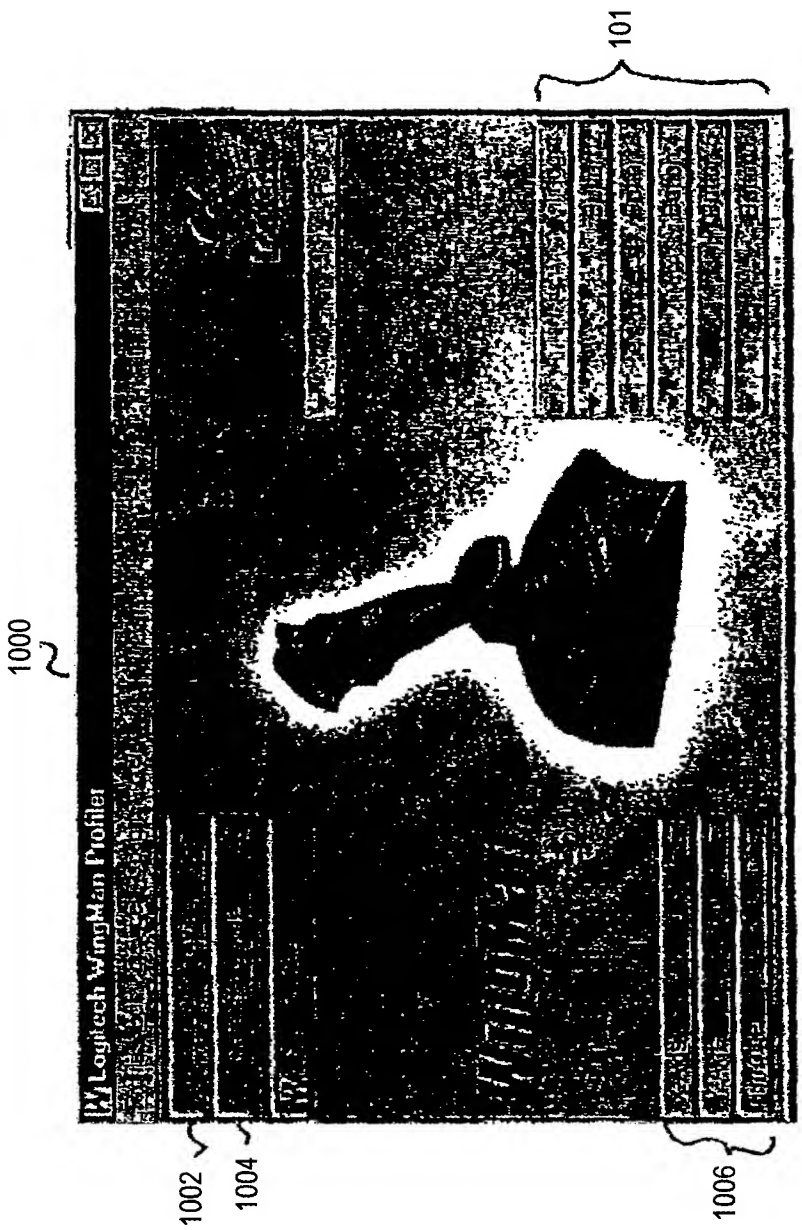

Fig. 10

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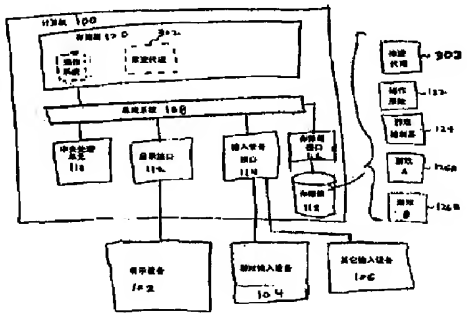
[54]发明名称 用于通过－通用计算机访问游戏和相关信息的推动代理

[57]摘要

在通用计算机上访问游戏经由一个方法被简化，这个方法包括：检测 一个来自一个游戏输入设备的用户输入；在检测到用户输入时启动一个推 进代理；显示已安装游戏的列表；提供列表的导航；在列表上提供游戏的选择；和启动被选择的游戏。而且，通过通用计算机访问辅助信息可以通 过连同已安装的游戏列表一起显示适当的链接而被简化。这些辅助信息可 能包括电子商务事务。另外，用于特定游戏输入设备，用于特定游戏和/或 者用于特定用户的设置可以被定制。



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权 利 要 求 书

1. 通过通用计算机简化访问游戏相关信息的方法，这个方法包括：

检测一个来自与通用计算机连接的游戏输入设备的用户输入；

启动一个用于利用通用计算机简化访问游戏相关信息的推进代理；

利用推进代理，在与通用计算机连接的显示设备上显示到游戏相关信息的链接；

利用推进代理，经由游戏输入设备为用户提供导航以便定位和选择一个到特定的游戏相关信息的特定链接；以及

利用推进代理，激活特定链接以便给用户提供特定的游戏相关信息。

2. 权利要求 1 的方法，其中游戏相关信息包括安装在通用计算机上的游戏，并且其中链接包括安装在通用计算机上的游戏的表示。

3. 权利要求 2 的方法，其中特定游戏相关信息包括一个特定游戏，并且其中激活特定链接包括为用户启动特定游戏来玩。

4. 权利要求 1 的方法，其中游戏相关信息包括辅助信息。

5. 权利要求 4 的方法，其中辅助信息包括关于购买或者租用未在通用计算机上安装的特定游戏的机会的信息。

6. 权利要求 5 的方法，其中辅助信息包括关于在顾客中已经基本上与电视游戏的玩家相重叠的市场中购买产品的机会的信息。

7. 权利要求 5 的方法，其中辅助信息经由网站被访问。

8. 权利要求 1 的方法，更进一步地包括：

给游戏输入设备分配一个特定的标识号以使得来自游戏输入设备的输入将被识别。

9. 权利要求 3 的方法，更进一步地包括：

在启动特定游戏之后关闭推进代理；以及

在特定游戏关闭后检测到一个新的用户输入之后，重新启动推进代

理。

10. 权利要求 1 的方法，其中检测用户输入包括：

利用在硬件抽象层中的驱动程序接收一个相应于用户输入的信号；以及

从驱动程序给启动器代理传递一个相应的信号。

11. 权利要求 10 的方法，其中，一旦接收到相应的信号，启动器代理使得推进代理被启动。

12. 权利要求 2 的方法，更进一步地包括当通用计算机被引导时更新已安装的游戏。

13. 权利要求 2 的方法，更进一步地包括在一个新的游戏安装在通用计算机上之后更新已安装的游戏。

14. 权利要求 2 的方法，更进一步地包括通过一个过程更新已安装的游戏，所述过程包括：

比较已知游戏的简要和安装在通用计算机上的程序中的包含数据的一个登记的内容以便确定匹配；

利用匹配来确定当前安装在通用计算机上的已知游戏；以及

更新安装游戏成为当前被安装的已知游戏。

15. 权利要求 12 的方法，其中过程更进一步地包括：

利用不匹配来确定当前没有被安装在通用计算机上的已知游戏。

16. 一种通过通用计算机简化访问游戏相关信息的方法，所述方法包括：

比较已知游戏的简要和安装在通用计算机上的程序中的包含数据的一个登记的内容以便确定匹配；

利用匹配来确定当前安装在通用计算机上的已知游戏；

更新安装游戏成为当前被安装的已知游戏；

检测一个来自与通用计算机连接的游戏输入设备的用户输入；

启动用于经由通用计算机简化访问游戏相关信息的推进代理；

利用推进代理，给游戏输入设备分配一个特定标识号，以使得从游戏输入设备的输入将被识别出；

利用推进代理，在与通用计算机连接的显示设备上显示到游戏相关信息包括到已安装游戏的链接；

利用推进代理，经由游戏输入设备为用户提供导航以便定位和选择一个到特定的游戏相关信息的特定链接；以及

利用推进代理，激活特定链接以便给用户提供特定的游戏相关信息。

17．一个用于通过通用计算机简化访问游戏相关信息的设备，所述设备包括：

一个检测模块，适合检测一个来自与通用计算机连接的游戏输入设备的用户输入；

一个推进代理，包括一个被构成为在与通用计算机连接的显示设备上显示到游戏相关信息的链接的显示模块，一个被构成为经由游戏输入设备为用户提供导航以便定位和选择到特定的游戏相关信息的特定链接的导航模块，和一个被构成为激活特定链接以便给用户提供特定的游戏相关信息的激活模块；以及

一个启动模块，适合在由检测部件检测到用户输入时启动推进代理。

18．一个通过通用计算机系统简化访问程序或信息的启动器代理，代理包括：

一个被构成为检测来自与通用计算机连接的游戏输入设备的用户输入的检测模块；以及

一个被构成为在检测到来自游戏输入设备的用户输入时启动推进代理的启动模块。

19．权利要求 18 的代理，其中，当游戏在通用计算机上正被运行时，代理终止检测来自游戏输入设备的用户输入。

20．权利要求 18 的代理，更进一步地包括：

一个被构成为比较已知游戏的简要和通用计算机上的一个登记的内容

并且由此确定匹配和不匹配的比较模块；以及

一个被构成为利用匹配来更新保存在通用计算机的存储器中的一个文件中的游戏数据的更新模块。

21．权利要求 20 的代理，其中当通用计算机被引导时比较和更新发生。

22．权利要求 20 的代理，其中比较和更新在一个新的游戏被安装在通用计算机上之后发生。

23．一个适合简化访问游戏相关信息的计算机系统，该通用计算机包括：

一个适合于允许在通用计算机的各种硬件部件之间通信的总线系统；

连接到总线系统并且适合执行来自通用计算机的软件部件的指令的中央处理单元（CPU）硬件；

连接到总线系统并且适合给显示设备传输用于显示的信息的显示接口硬件；

连接到总线系统并且适合接收来自游戏输入设备的输入的输入设备接口硬件；

连接到总线系统并且适合发送和接收来自存储设备的数据的存储接口硬件；

连接到总线系统并且适合包含由 CPU 执行的软件和由程序使用的数据的存储器硬件；

构成为建立通用计算机的硬件和软件部件之间的接口的操作系统软件；

构成为在显示设备上显示到游戏相关信息的链接的推进代理软件；

构成为检测来自游戏输入设备的用户输入并且在检测到用户输入启动时推进代理软件的启动器代理软件。

24．用于从一组已知游戏中更新关于在计算机系统上已安装游戏的数据的方法，所述方法包括：

比较已知游戏的简要和包含被安装在通用计算机的程序上的数据的一个登记的内容，以便确定匹配；

利用匹配来确定当前安装在通用计算机上的游戏；以及

更新关于已安装的游戏的数据以便反映当前被安装的游戏。

25．权利要求 3 的方法，其中推进代理提供对特定游戏输入设备的定制。

26．权利要求 3 的方法，其中推进代理提供对特定游戏的定制。

27．权利要求 3 的方法，其中推进代理提供对特定用户的定制。

00.11.13

说　明　书

用于通过一通用计算机访问游戏和相关信息的推动代理

本发明通常涉及数据处理系统和方法。更具体说，本发明涉及一种在通用计算机系统中简化访问游戏的系统和方法。

电视游戏一般地被运行在象出自任天堂或者索尼的那些专用游戏机上，或者运行在象个人计算机这样的通用计算机上。

专用游戏机明确地打算用于玩游戏；它们不被打算用于字处理、电子数据表等等。由于没有与非游戏应用程序竞争，因此在专用游戏机上访问游戏是直接的。典型地，包含游戏软件的盒式磁盘或磁盘被插入机器，机器运行那个游戏。

通用计算机被打算用于运行更多种类的应用程序，例如字处理器、电子数据表、画图程序、电子邮件程序、网页浏览器、……、以及游戏。由于在通用计算机上有许多应用程序，因此在通用计算机上查找和访问要玩的游戏比在专用游戏机上是更有问题的，并且用户界面更不友好。

图 1 是一个图解说明一个常规的通用计算机系统的框图。常规的系统包括一个通用计算机（100），一个显示器设备（102），游戏输入设备（104）和其他输入设备（106）。

通用计算机（100）可以包括出自众多厂商的个人计算机。可替代地，通用计算机（100）可以包括工作站、服务器或者其他通用计算设备。通用计算机（100）典型地包括一个总线系统（108），一个中央处理器（CPU）（110），一个显示接口（112），一个输入设备接口（114），一个存储器接口（116），一个存储设备（118），和存储器（120）。

显示接口（112）被连接到显示设备（102）并且在其中传输用于显示的信息。显示接口（112）可以包括一个可出自各种厂商的图形卡。显示设

备（102）可以包括一个可出自许多公司的监视器。可替代的，显示设备（102）可以包括一个平板显示设备或者一个电视显示器。

输入设备接口（114）可以连接到游戏输入设备（104）和其他输入设备（106），并且被构成为从其接收输入。输入设备接口（114）可以包括一个象游戏端口这样的串行接口，一个 RS-232 接口，一个 USB（通用串行总线）接口，或者多种其他的接口。游戏输入设备（104）可以包括一个操纵杆、方向盘、游戏垫、用于游戏的枪或者任何其他的游戏输入设备。这样的游戏输入设备（104）可以出自 California 的 Logitech Inc.Of Fremout。其他的输入设备（106）典型地包括一个键盘和一个鼠标或者其他的定点设备。其他输入设备（106）可能被连接到与游戏输入设备（104）相同的接口上（如图 1 中所示），或者连接到一个或者更多的不同接口（114）上。

存储器接口（116）被连接到存储设备（118）并且允许对其中的内容的访问。存储设备（118）典型地是一个或者多个硬盘驱动器。存储设备（118）典型地存储各种软件，包括操作系统（OS）（122）和应用程序软件。一个 OS（122）是尤其用于在应用程序和通用计算机（100）的硬件和文件系统之间建立一个接口的软件。在对于本申请的特殊兴趣中，应用程序软件经常包括游戏控制器软件（124）和游戏软件（126）。游戏控制器软件典型地与出自例如 Logitech Inc.的游戏输入设备（104）封装在一起。游戏软件（126）可能包括许多出自各种软件出版商的游戏。

存储器（120）典型地包括一种形式的随机存取存储器（RAM）。存储器（120）可以包括出自各种生产商的可用的 RAM。存储器（120）典型地装载操作系统，并且从存储设备（118）中选择应用程序。对于用于本申请的特殊兴趣，存储器（120）可以从存储设备（118）中装载游戏控制器软件（124）和游戏软件（126）。

图 2 是一个图解说明一种用于在常规的通用计算机系统上访问游戏的常规方法的流程图。图 2 中的步骤典型地由通用计算机（100）的用户来执行。

当游戏输入设备（104）被连接（步骤 202）到输入设备（114）时方法开始。用户在想要玩存储在通用计算机（100）中的多种游戏（126）中的一个之前，典型地通过接口（114）将游戏输入设备（104）连接（步骤 202）到通用计算机（100）。在图 1 中图解说明的常规通用计算机系统显示被连接到通用计算机（100）的游戏输入设备（104）。

一旦游戏输入设备（104）被连接（步骤 202）到通用计算机（100），用户典型地经由操作系统（112）运行游戏控制器软件（224）。例如，使用出自 Microsoft 的 Windows95 操作系统，用户例如可以单击“开始”按钮，然后转到“程序”，然后仔细检查列表和/或者文件夹以便寻找并且单击游戏控制器软件（224）的图标或者名称。依据由用户所指示的，OS（112）使得游戏控制器软件从存储器（118）被装载到存储器（120），并且 CPU（110）随后执行游戏控制器软件的指令。

一旦游戏控制器（124）正在运行，用户能够确定（步骤 206）游戏输入设备（104）是否被分配到一个特定的标识号（典型地，ID1，如图 2 中所示），以使得从游戏输入设备（104）的输入将被游戏软件认出。如果游戏输入设备（104）没有被分配到特定的标识号，则用户必须典型地给游戏输入设备（104）分配一个特定的标识号。

一旦游戏输入设备（104）被分配了特定的标识号，则用户典型地经由操作系统（122）寻找和运行（步骤 210）他或者她想玩的游戏（126）。例如，使用出自 Microsoft Corp。OF Redmond，Washington 的 Windows95 操作系统，用户例如可以单击“开始”按钮，然后转到“程序”，然后仔细检查列表和/或者文件夹以便寻找并且单击用户想玩的游戏（126）的图标或者名字。例如，用户想玩的游戏（126）可以包括一个存储在存储器（118）中的特定游戏（126B）。依据由用户所指定的，OS（122）使得特定游戏（126B）从存储器（118）装载到存储器（120），并且 CPU（110）随后执行特定游戏（126B）的指令。

一旦用户想玩的游戏（126）已经被运行（步骤 210），则用户可以玩

（步骤 212）这个游戏（126）。在玩完这个游戏（126）之后，用户可以引起游戏软件（126）被关闭（步骤 214）或者，换句话说，停止执行。在那一点上，用户可以经由 OS（122）再次寻找和运行（步骤 210）用户想玩的另一个游戏（126）。

这种常规方法的一个问题和缺点是利用操作系统（122）寻找和运行（步骤 210）用户想玩的游戏（126）是麻烦的和低效率的。这个麻烦的和低效率的步骤在每一次用户需要寻找和运行（步骤 210）另一个游戏（126）时都被重复。另外，游戏控制器（124）的运行（步骤 204）和分配给游戏输入设备（104）的标识号的确定（步骤 206）是两个有问题的和由常规方法不利地要求的附加步骤。更进一步地，设置的定制不能通过常规的方法被提供。

本发明通过使一个利用游戏输入设备的用户能够通过一个通用计算机容易地运行一个游戏和访问辅助信息从而克服了上述的问题和缺点。依据这项发明，在通用计算机上运行游戏经由一种方法被简单化了，这种方法包括：检测来自游戏输入设备的用户输入；在检测到用户输入时启动一个推进代理；显示已安装游戏的列表；提供对列表的导航；提供在列表上的游戏的选择；以及启动被选择的游戏。进一步地依据本发明，通过通用计算机对辅助信息的访问也通过连同已安装游戏的列表一起显示适当的链接而被简化了。这种辅助信息可以包括电子商务事务。同样依据本发明，设置可以被定制用于特定游戏输入设备、特定游戏、和/或者特定用户。

此外，本发明涉及一个启动器代理，包括：一个被构成为检测来自游戏输入设备的用户输入的检测模块；和一个被构成为在检测到用户输入时启动推进代理的启动模块。更进一步的，本发明涉及一种用于通过比较一组已知游戏和一个包含关于已安装程序的信息的记录来确定和更新安装在通用计算机上的游戏的列表的方法。

图 1 是一个图解说明一个常规通用计算机系统的方框图；

图 2 是一个图解说明一个用于访问常规通用计算机系统上的游戏的常

规方法的流程图；

图 3A 是一个图解说明一个依据本发明的计算机系统的方框图；

图 3B 是一个图解说明一个依据本发明的包括游戏数据（304）和一个启动器代理（306）的操作系统（122）的方框图；

图 4 是一个图解说明一种用于依据本发明通过图 3A 的通用计算机系统启动游戏或者访问辅助信息的方法的流程图；

图 5 是一个图解说明一种依据本发明的启动（步骤 404）推进代理（302）的方法的流程图；

图 6 是一个图解说明依据本发明的在图 5 的方法所涉及的元件之间的关系的方框图。

图 7 是一个图解说明依据本发明更新游戏数据（304）的方法的流程图；

图 8 是一个图解说明依据本发明的有一个由推进代理（302）给出的窗口（802）的显示设备（102）的方框图；

图 9 是一个依据本发明的优选实施例的由推进代理（302）给出的窗口（802）的示意图；

图 10 是一个依据本发明的优选实施例的由软件给出的定制设置的窗口（1000）的示意图。

图 3A 是一个图解说明一个依据本发明的计算机系统的方框图。在图 3A 中的通用计算机系统与在图 1 中的常规通用计算机系统相似。然而，在图 3A 中的通用计算机系统包括存储在存储器（118）中的推进代理软件（302）。此外，如在图 3B 中所示，操作系统（122）包括游戏数据（304）和一个启动器代理（306）。推进代理（302）、游戏数据（304）和启动器代理（306）在下面被进一步地描述。它们不存在于常规通用计算机系统中。

图 4 是一个图解说明一种用于依据本发明在图 3A 中的通用计算机系统上启动游戏和访问辅助信息的方法的流程图。在图 4 中被显示为矩形框

的步骤典型地被通用计算机（100）的用户执行，而在图 4 中被显示为圆形框的步骤是由推进代理（302）执行。由推进代理（302）执行的步骤从用户的角度看是被自动执行的。

类似图 2 的方法，当游戏输入设备（104）被连接（步骤 202）到输入设备接口（114）时图 4 的方法开始。在用户想玩存储在通用计算机（100）上的各种游戏（126）中的一种之前，用户典型地通过接口（114）将游戏输入设备（104）连接（步骤 202）到通用计算机（100）。在图 3A 中图解说明的通用计算机系统显示被连接到通用计算机（100）上的游戏输入设备（104）。

然而，在该第一步之后，图 4 的方法不同于图 2 的方法。在图 4 的方法中下一步通过用户简单地按下（步骤 402）在游戏输入设备（104）上的一个按钮而产生。按钮可以包括在游戏输入设备（104）上的任何按钮，或者按钮可以包括在游戏输入设备上的一个专用按钮或者一组专用按钮。可替代的，代替按下（步骤 402）一个按钮，用户可以移动一个模拟控制，例如一个操作杆或者一个方向盘。

按钮按下（步骤 402）典型地指示出一个用户想玩游戏（126）。启动器代理（306）检测按钮按下（步骤 402）并且引起推进代理软件（302）启动（步骤 404）。推进代理（302）启动通过将它装载入存储器（120）并且由 CPU（110）执行它的指令而产生。检测按钮按下（步骤 402）和启动推进代理（302）（步骤 404）的自动过程在下面结合图 5 被更详细地描述。

一旦推进代理（302）被启动（步骤 404），推进代理（302）给游戏输入设备（104）分配（步骤 406）一特定标识号（典型地，ID1，如图 4 中所示），以便于来自游戏输入设备（104）的输入将被游戏（126）适当地识别。这一步（步骤 406）由推进代理（302）自动地执行；将用户从必须运行（步骤 204）游戏控制器（124）并且通过游戏控制器（124）分配（步骤 208）特定标识号中解救出来。这样，两个常规方法的问题和缺点因此而被克服。

一旦游戏输入设备（104）被分配了特定标识号，推进代理（302）在显示设备（102）上显示在存储器（118）中的游戏（126）的名称和/或者图标的列表。列表从游戏数据（304）中获得。列表还可以在显示之前（步骤 408）被分类，例如，按字母表顺序。大多数近来被玩的游戏（126）为了用户的方便也可以被高亮显示或者被预先选择。类似于由推进代理（302）执行的其他步骤，这一步（步骤 408）是自动被执行的而不需任何来自用户的输入。获得和/或者更新游戏数据（304）的自动过程在下面结合图 7 将被更加详细地描述。

随同游戏（126）的列表一起，推进代理（302）还提供了导航和选择特性以使得用户可以利用游戏输入设备（104）来寻找和激活（步骤 410）一个到他或者她想玩的特定的游戏（例如游戏 B）或者他或者她想访问的辅助信息的链接。导航和选择特性可以允许用户经由游戏输入设备（104）在链接中导航和选择。例如，如果游戏输入设备（104）是一个操纵杆，则操纵杆的自然的上下或者左右移动将被用于在链接中导航。经由这一步（步骤 410），用户从必须通过操作系统（122）在大量文件中定位（步骤 210）特定游戏（126B）的麻烦的步骤中被解救出来。因而，常规方法的其他问题和缺点因此而被克服。

另外，推进代理（302）提供设置的定制。这种可定制的设置可以包括用于特定游戏输入设备和/或者特定游戏和/或者特定用户的设置的定制，例如给按钮分配功能。用于这样被定制的设置的数据可以被保持在游戏数据中（304）。

更进一步地，这一步（步骤 410）不但提供了对游戏的而且提供了对辅助信息的方便的访问。如果通用计算机（100）被连接到国际互联网上，辅助信息例如可以通过一个网站被访问。辅助信息可以包括：在游戏活动上的讨论群体；游戏的评论；游戏行业新闻；关于新游戏或者游戏输入设备的信息；更新驱动程序软件的信息；购买或者租用游戏或者游戏输入设备的机会；购买订阅游戏相关杂志的机会；等等。 辅助信息还可以包括提

供进行电视游戏行业之外的交易的信息和机会的广告，特别是在顾客基础已经基本上与电视游戏的玩家一致的市场中。

一旦链接被激活，则推进代理（302）关闭（步骤 412），用户玩那个游戏或者访问信息和事务（步骤 414）。当玩或者访问正在发生时（也就是在步骤 414 期间），对来自游戏输入设备（104）的输入的监视被启动器代理（306）所中止，在按钮按下（步骤 402）时启动器代理（306）启动（步骤 404）推进代理（302）。

一旦用户完成玩游戏或者访问信息和事务，用户终止（步骤 416）玩游戏或者访问。在终止之后，启动器代理（306）重新启动对来自游戏输入设备（104）的输入的监视。如果用户切换到任何其他正在运行的应用程序（游戏没有被终止，而是被暂停），启动器代理还重新启动对输入的监视。因此，下一次按钮按下（步骤 402）发生时，启动器代理（306）将再次启动（步骤 404）推进代理（302）。

图 5 是一个图解说明一种依据本发明启动（步骤 404）推进代理的方法的流程图。图 5 的方法在用户按下按钮（步骤 402）之后开始。

在第一步，由于按钮按下（步骤 402），所产生的信号由驱动程序软件（602）从游戏输入设备（104）中被接收。随后，驱动程序（602）给启动器代理（306）发送（步骤 504）一个相应的通信。响应这个通信，启动器代理（306）使得推进代理（302）被启动（步骤 506）。启动（步骤 506）通过将推进代理（302）装载在存储器（120）中然后由 CPU（110）运行而发生。

图 6 是一个图解说明依据本发明的图 5 的方法所涉及的元件之间的关系的方框图。在图 6 中，所示的游戏输入设备（104）向驱动程序软件（602）发送一个信号。驱动程序（602）被显示为硬件抽象层（HAL）（604）的一部分。这样一个 HAL（604）经常存在于 OS（122）中。例如，出自 Microsoft 的 Windows98 和 Windows NT 包括 DirectX（对硬件编程的接口）作为它们的一个完整部分。DirectX 提供一个包括象图 6 中的驱动程序（602）一

样的各种普通软件驱动程序的 HAL（604）。驱动程序（602）被显示为和也被显示为 OS（122）的一部分的启动器代理（306）相联系。启动器代理（306）包括一个专用于所使用的专用游戏输入设备（104）的覆盖涂层。启动器代理（306）被显示为与也被显示为 OS（122）的一部分的游戏数据（304）相联系。

图 7 是一个图解说明依据本发明的更新游戏数据（304）的方法的流程图。当通用计算机（100）被引导（步骤 702）时这种方法典型地开始。另外，在新的游戏软件被安装（步骤 703）之后这种方法可以开始。计算机引导过程是用于大多数常规的部分并且尤其涉及 OS（122）的装载和初始化。

然而，依据本发明，OS（122）包括启动器代理（306）。所以，在这个发明中，在引导过程期间启动器代理被执行以便于更新游戏数据（304）。在这样的更新过程中，启动器代理（306）的操作如下。第一步，将启动器代理（306）已知的游戏的简要与在由 OS（122）保存的记录中的程序覆盖区相比较（步骤 704）。这样的记录例如由出自 Microsoft 的 Windows OS 所保存。第二步，来自比较的匹配被用来组成（步骤 706）安装在通用计算机（100）上的已知游戏（126）的列表。最后，第三步，在存储器（118）中的已知游戏的列表被用于更新（步骤 708）游戏数据（304）。

已知游戏的简要被存储在存储器（118）中并且可以是在与游戏数据（304）相同的文件或者不同的文件中。可以提供特性来允许经由国际互联网或者经由软盘或者其他通信方式更新简要。这样通过国际互联网的更新依据用户的请求而被执行，或者在及时基础上自动地执行而不用必须被用户请求。一个简要可以包括关于一个游戏的扩展信息，包括使用的命令、软件的大小、软件的版本、出版商和各种其他信息。各种其他信息例如可以包括可以买到或者租用游戏的拷贝的网站的地址。

注意到通过启动代理（306）的已知游戏与记录中的程序的比较是必要的，因为通用计算机不但包含游戏，还包含许多其他可执行文件。目前，

操作系统（122）通常不提供一个统一的方式来区分游戏应用程序和非游戏应用程序。例如，一个人不能简单地通过应用程序的名称和位置来分辨它是否是一个游戏。在将来，这样的区分游戏应用程序和非游戏应用程序的方法可能被提供。

图 8 是一个图解说明一个依据本发明的有一个由推进代理（302）给出的窗口（802）的显示设备（102）的方框图。窗口（802）的内容被示意性地显示并且不打算指示一个特定布局。窗口的内容包括一个已安装游戏（802A）的列表和对辅助信息的访问（802B）。对辅助信息的访问（802A）可以以列表形式、下拉窗口或者其他呈现形式存在。类似的，已安装游戏（802A）的列表不必是字面上的列表，并且可以包括在其中列表可能很长的导航特性。可替代的，已安装游戏（802A）和辅助信息（802B）可以被分别地呈现在不同的窗口中，或者已安装游戏（802A）和辅助信息（802B）可以被呈现在相同的列表中但是在显示上彼此互相区别。

由于游戏 A 和 B 在图 7 中显示为已安装，推进代理（302）在已安装游戏中显示游戏 A 和 B。对于图 4 的每一步（步骤 410），如果一个用户单击游戏 B 的名称和/或者图标，代理将启动游戏 B。

游戏 C 和 D 在图 7 中没有显示为已安装。因此，他们在游戏中显示为仍未被安装（802B）。用户可以选择这样一个未安装游戏并且获得关于这个游戏的附加信息。这样的信息可以被存储在未安装游戏的简要中，或者它可以从游戏出版商的网站上获得。而且，用户可能被询问他或者她是否希望购买或者租用这个未安装的游戏。如果用户指示他或者她希望购买或者租用这个未安装的游戏，代理（302）可以联系游戏出版商的网站，传递付款信息，并且下载用于安装的游戏拷贝。

图 9 是一个依据本发明的优选实施例由推进代理（302）给出的窗口（802）的示意图。窗口（802）包括表示已安装游戏的图标（902）和滚动按钮（904L，904R）以便查看并且选择超过在窗口（802）中当前显示的那些之外的其他已安装游戏（902）。

图 10 是一个依据本发明的优选实施例由软件给出的定制设定的窗口（1000）的示意图。用户能利用第一个特征（1002）来选择一个特定的游戏输入设备（104），利用第二个特征（1004）选择一个特定游戏（126）。对于特定设备（104）和游戏（126），窗口（1000）显示多种可以被用户定制的特征。

虽然本发明的详细而精确的实施例和应用程序已经被图解说明和描述，可以理解，本发明不仅仅被局限于这里被公开的精确的结构和部件，并且对本发明所属技术领域的普通技术人员来说很显然的是，在不超出如后附的权利要求书所确定的本发明的范围及精神实质的情况下，可以作出对在这里被公开的本发明的方法和设备的装配、操作和细节的各种修改、改变和变化。

说 明 书 附 图

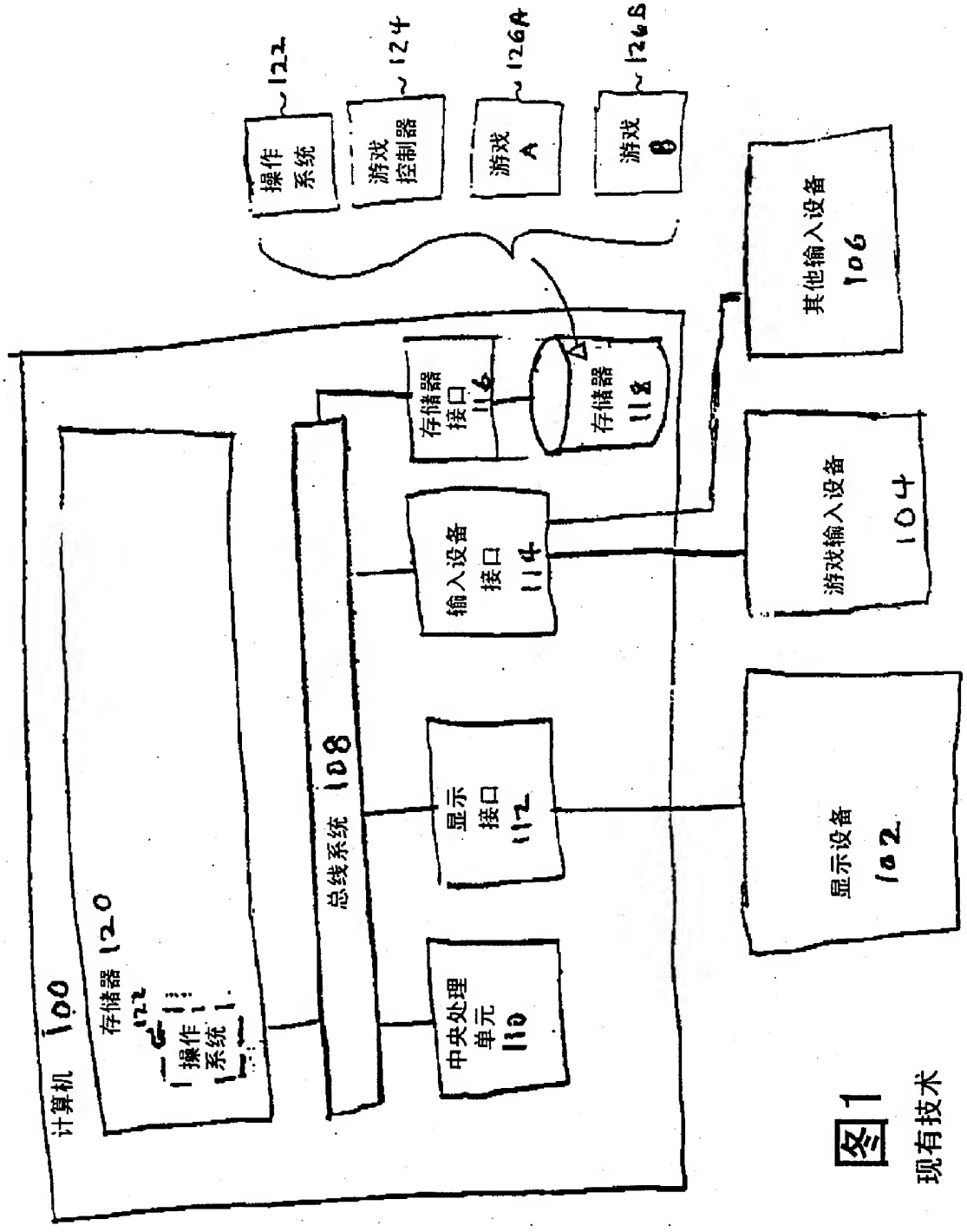

图1 现有技术

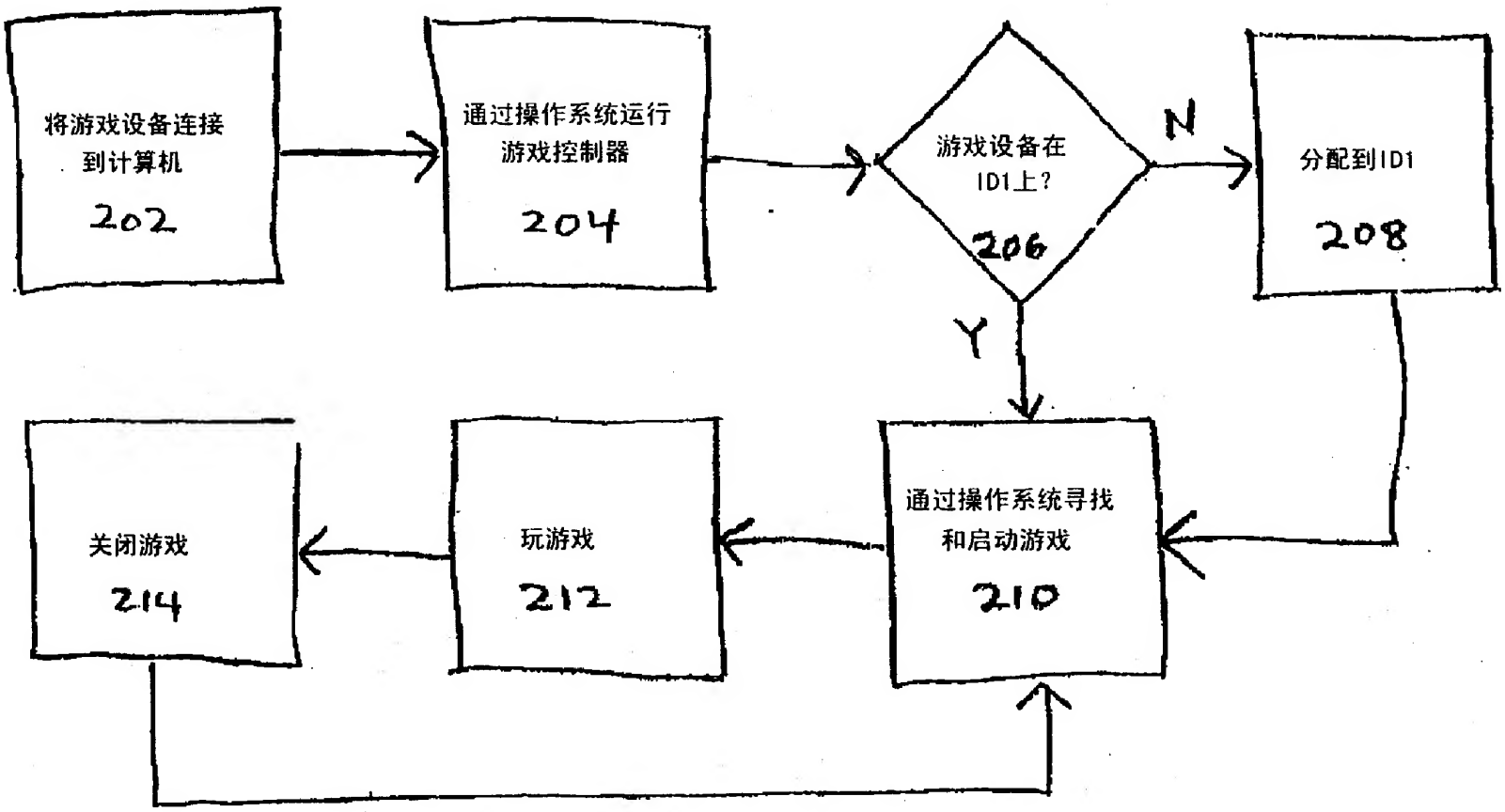
将游戏设备连接到计算机
202
通过操作系统运行游戏控制器
204
游戏设备在ID1上?
206
N
分配到ID1
208
Y
通过操作系统寻找和启动游戏
210
玩游戏
212
关闭游戏
214

图2

现有技术

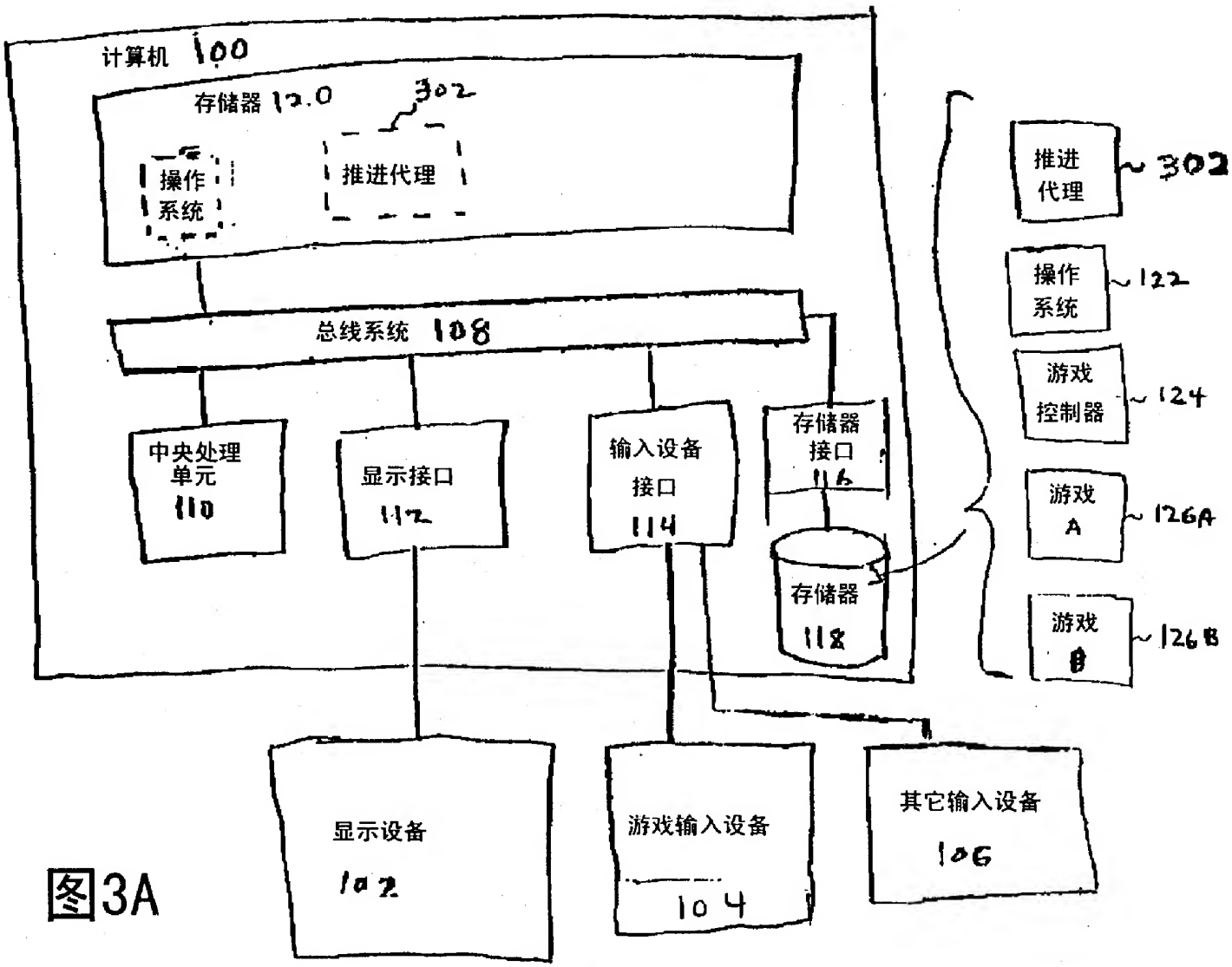
计算机 100
存储器 120
302
操作系统
推进代理
总线系统 108
中央处理单元 110
显示接口 117
输入设备接口 114
存储器接口 116
存储器 118
显示设备 102
游戏输入设备 104
其它输入设备 106
推进代理 302
操作系统 122
游戏控制器 124
游戏A 126A
游戏B 126B

图3A

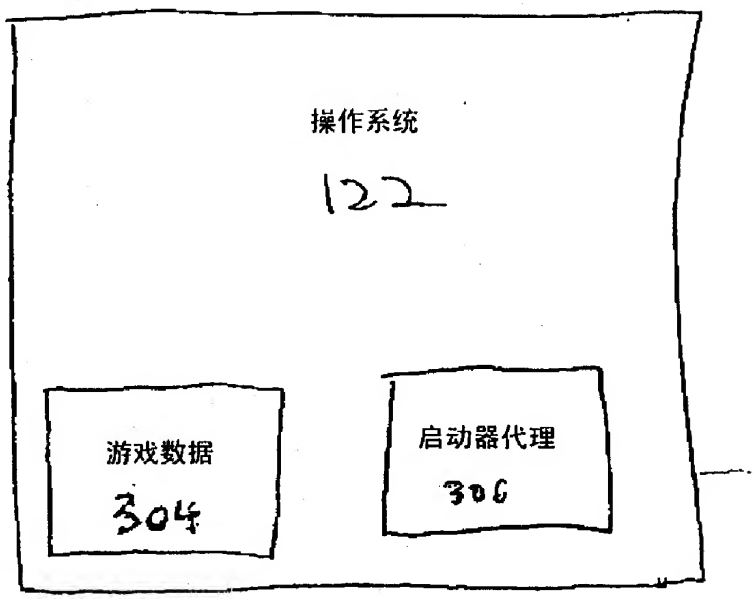

图3B

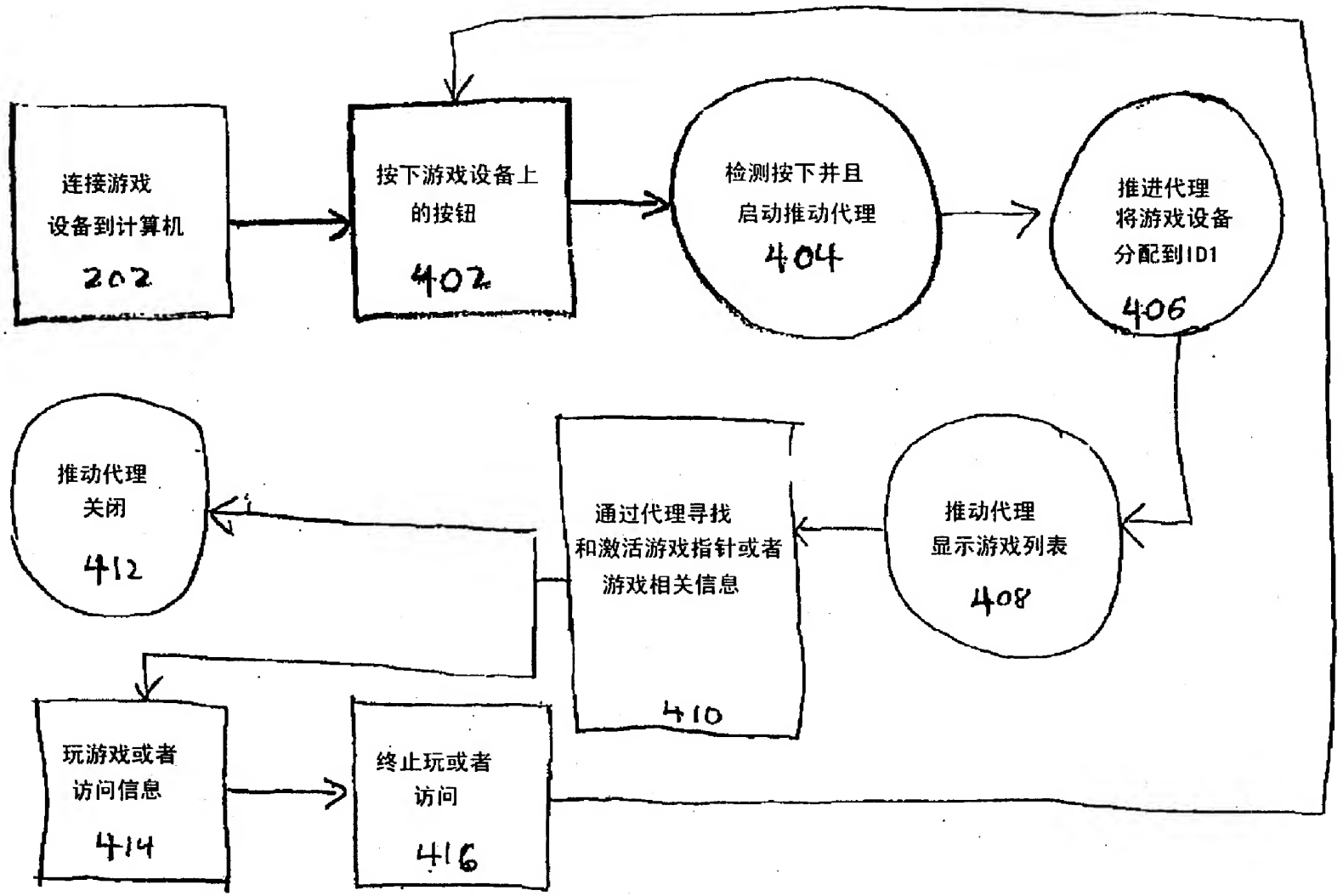
连接游戏
设备到计算机
202
按下游戏设备上
的按钮
402
检测按下并且
启动推动代理
404
推进代理
将游戏设备
分配到ID1
406
推动代理
显示游戏列表
408
通过代理寻找
和激活游戏指针或者
游戏相关信息
410
推动代理
关闭
412
玩游戏或者
访问信息
414
终止玩或者
访问
416

图4

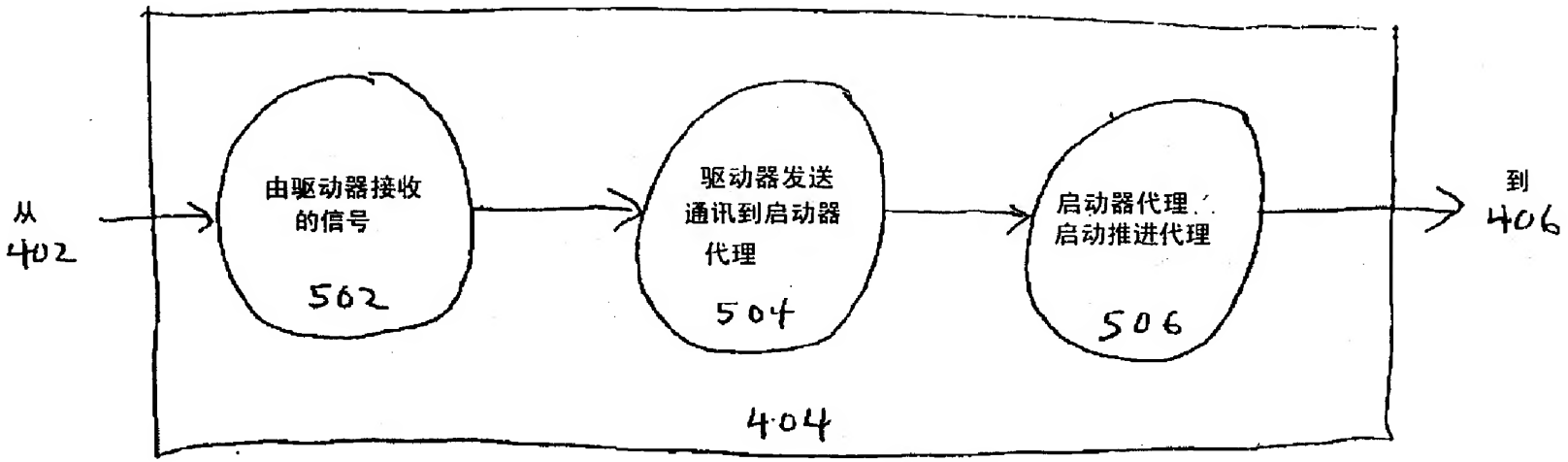
从
402
由驱动器接收
的信号
502
驱动器发送
通讯到启动器
代理
504
启动器代理
启动推进代理
506
到
406
404

图5

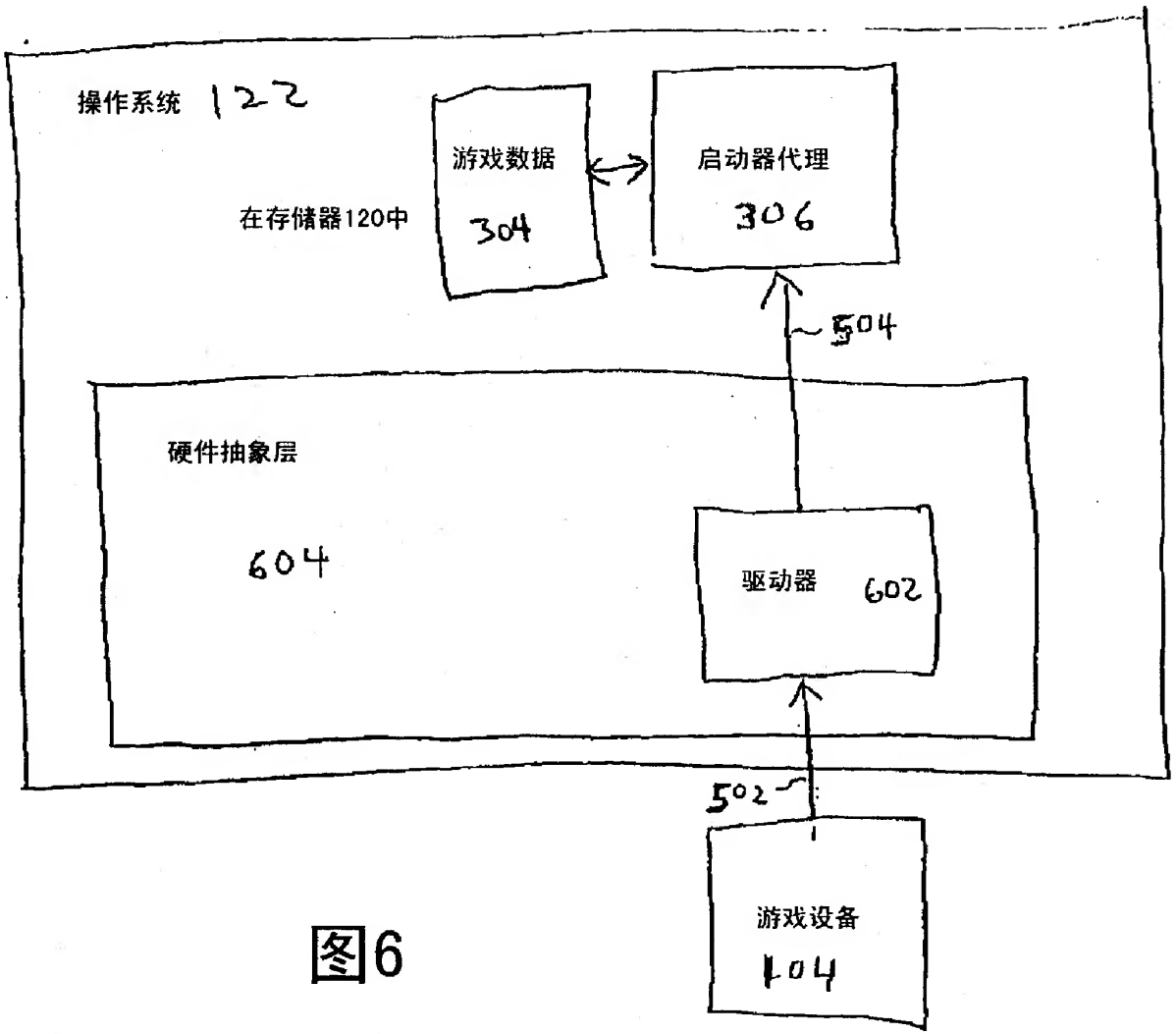
操作系统 122
游戏数据
304
在存储器120中
启动器代理
306
504
硬件抽象层
604
驱动器
602
502
游戏设备
104

图6

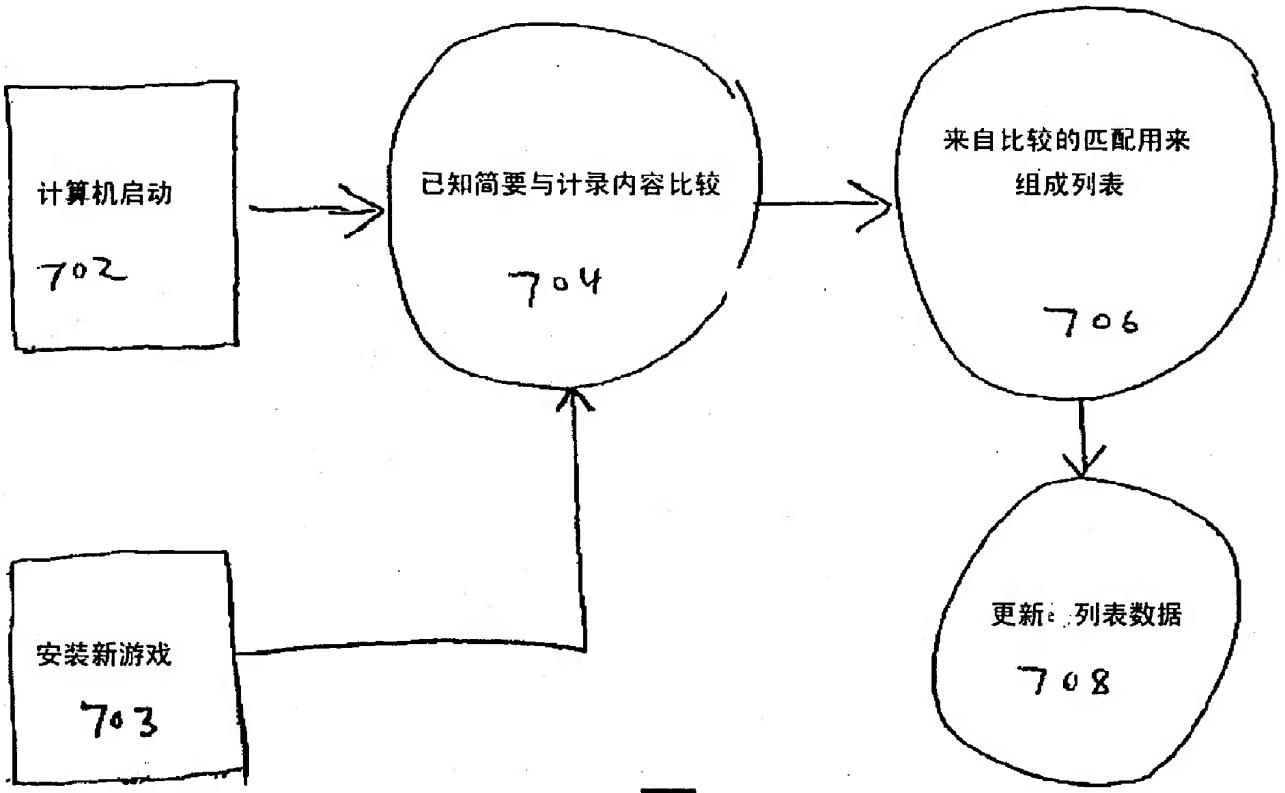
计算机启动
702
已知简要与计录内容比较
704
来自比较的匹配用来
组成列表
706
更新列表数据
708
安装新游戏
703

图7

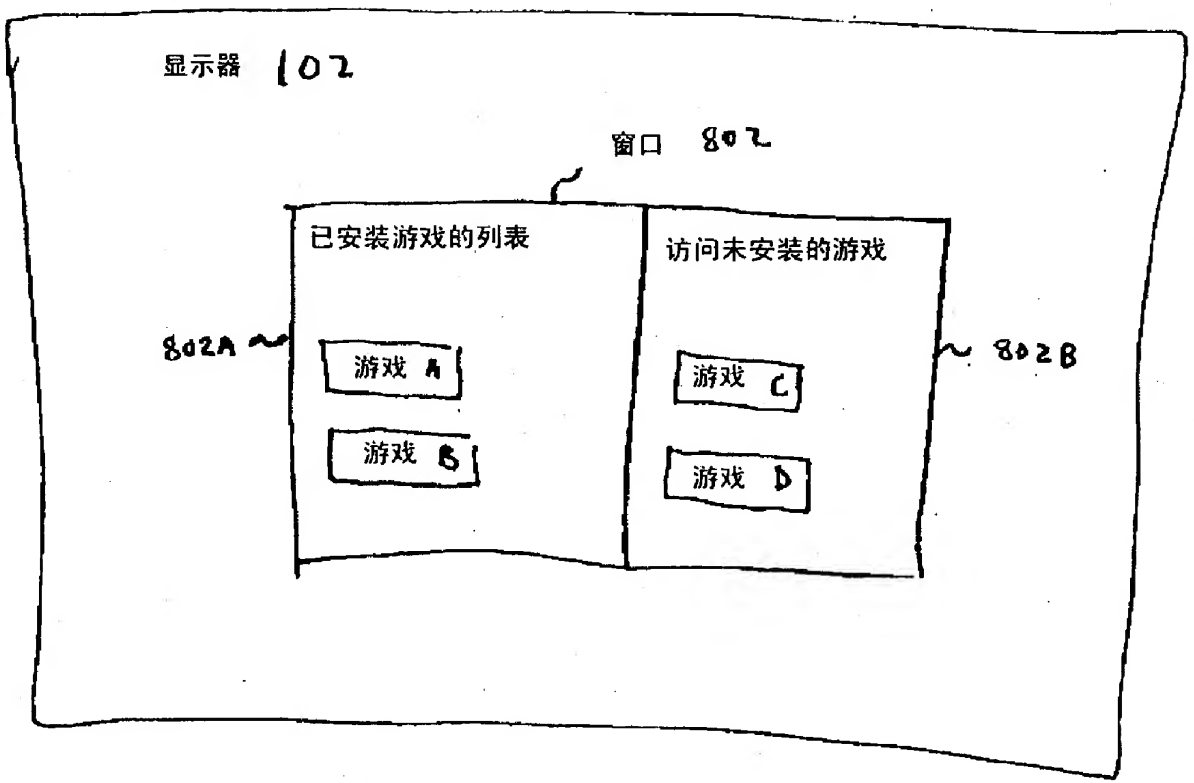

图8

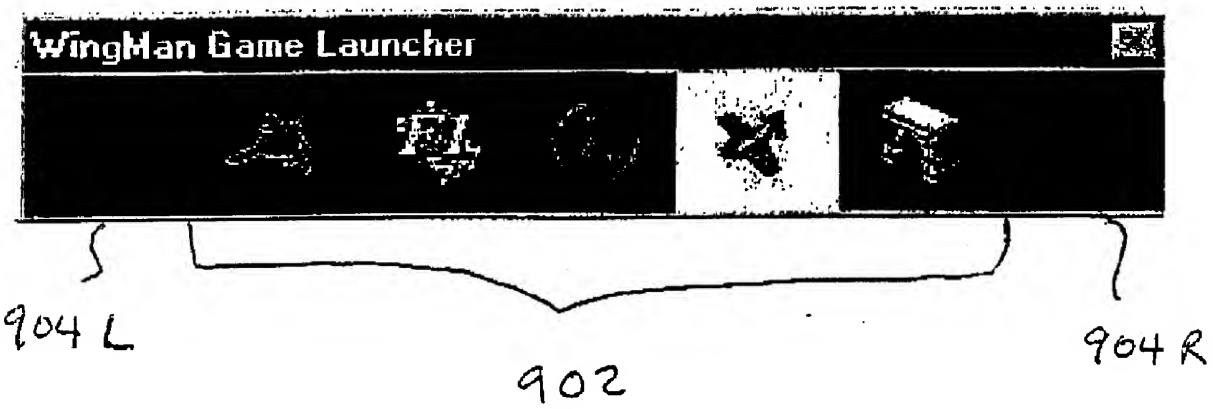

图9

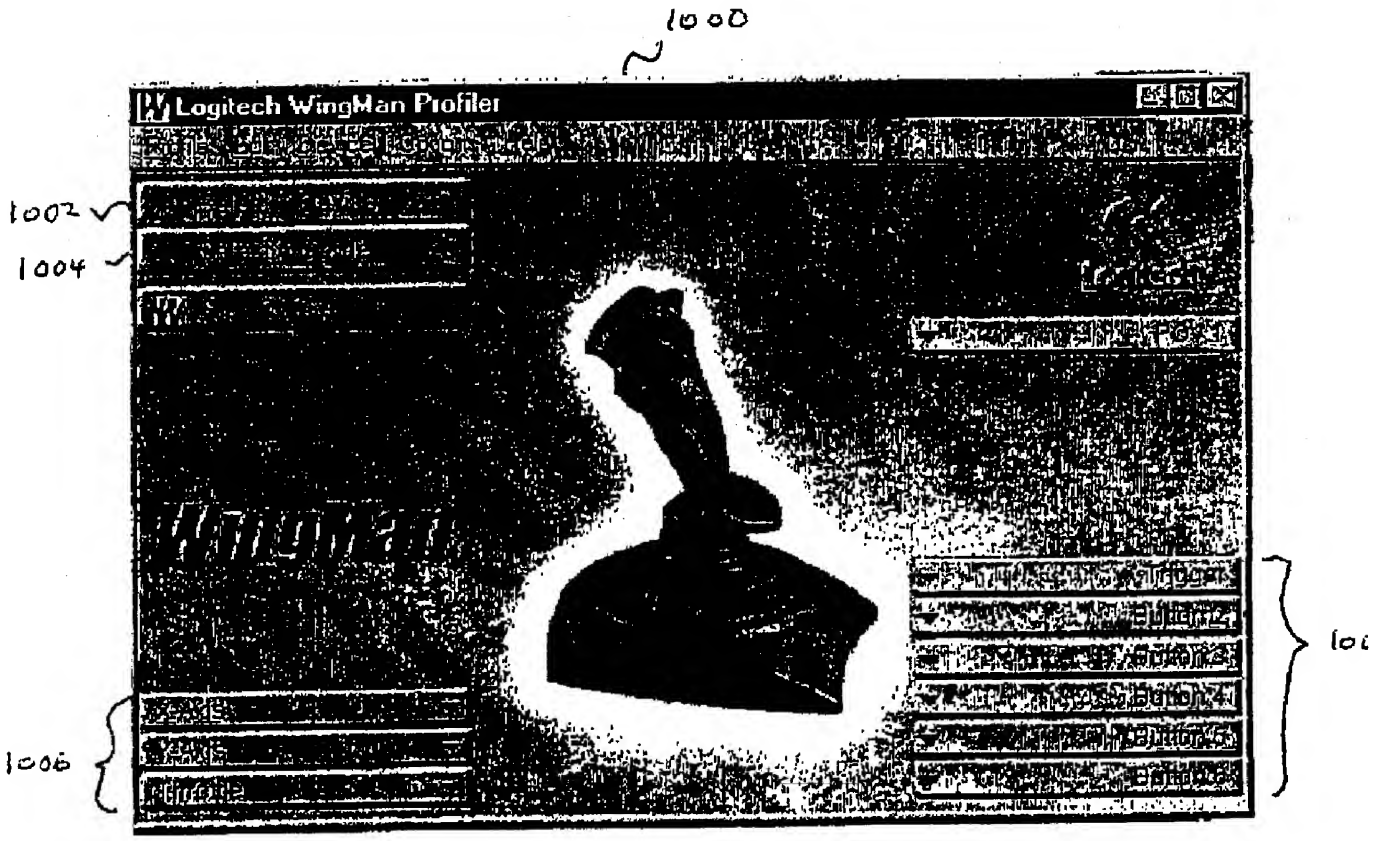

图10